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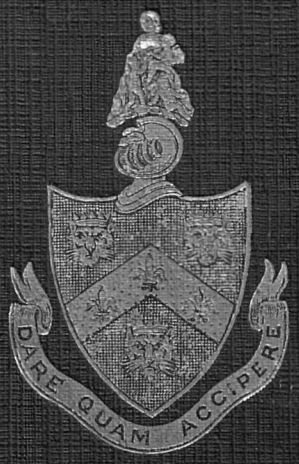

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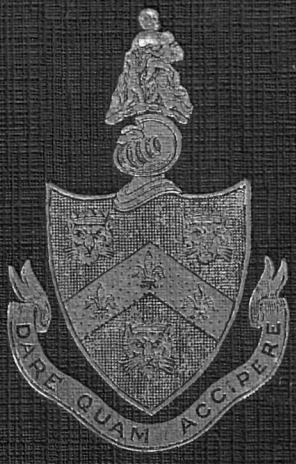

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PASSIM

THE New Year brings in much that is new, promise of change, promise of Spring, new resolutions and new hopes. Aggressive child the young year is, smashing with childish glee all the old fabric of the dying year. Upon the calendar the very numbers, 1934, seem to be foreign; for the first few weeks of January they are a mild surprise each time one opens the newspaper. Indeed, to one who is by nature timid and by education conservative, the wild enthusiasm of the New Year is not altogether pleasing. It promises change, and these promises will be forgotten by 1935; it destroys the old order, and that, though it be unavoidable, one cannot ever forgive.

The last days of December have robbed us, in the retirement of Mr. Turner, of one of the most beloved personalities at Guy's. So much has he seemed part and parcel of the daily work of the Hospital that the absence of his name from the Front Lodge board has for us that same saddening emotion with which we cross out 1933 on the heading of the paper and write instead the unknown and barbarian figures of 1934.

Of his earlier days at the Hospital we cannot speak. To us in our rude youth he has always been the familiar figure of "Philip," whose thoughtfulness for others and genuine kindness made it a pleasure to work for him either as a clerk, as a dresser or as a house officer. Indeed, he had the happy knack of making us feel that we worked not so much for him as with him; he inspired confidence and he demanded it from his students. His friendly personality endeared him to all.

Not only was this affection shown by the Staff, but to the patient he was all that a surgeon should be—kindly, considerate and firm.

His dry humour and the droll anecdotes of the peculiar cases which from time to time he had encountered, enlivened many a summery and soporific afternoon in ward or theatre. It was an education for any budding raconteur to watch the climax of the story being built up, detail by ludicrous detail, until the story ended with, "And what do you think it was?" and a friendly dig in the ribs by his elbow. By such details is nourished affectionate memory.

The Hospital will be the poorer for his retirement, for his clinical teaching and acumen were an education to all who worked under him, and the lot of the houseman was lightened by his willingness to shoulder irksome responsibilities and unpleasant duties. He was always ready to break the news of an imminent operation to a frightened and querulous patient, or of a bad prognosis to a recalcitrant relative. That seems a small point, but it is one which is dreaded by the majority of young and newly-qualified housemen, and it is a duty which they have too often to perform.

His long and popular association with the Rugger Club is too well known to merit recording here, and he did much to foster that spirit of healthy patriotism which has given Guy's such a high name in hospital athletics.

Everyone is sorry that he is retiring, his colleagues will miss his cheerful companionship and his students will miss his teaching and his encouragement. Though we may no longer, waiting by the Lodge, strain our eyes for the familiar figure of the "Boss" arriving for his Monday round, yet we hope that we shall often see him in the Hospital; and we shall be carried back, in our pleasant remembrances of things past, to 1933 and the years before, and we shall be able to forget for a moment the cruel rush of time in the recollection of the pleasant hours we spent in the wards, a raw ward clerk, on a summer afternoon.

Let us wish him heartily many years to enjoy his new leisure, and may we see him again in the old familiar haunts.

CHRISTMAS in hospital is a bran-tub of merry-making into which anyone can dip and pick enjoyment to suit his own taste. The most exuberant dresser celebrates side by side with the sick patient, and neither spoils the other's fun, for at Yuletide everyone is tolerant. Among the Nursing Staff we see little feminine touches becoming more and more pronounced, and hitherto suspected but unconfirmed talent with paint-brush and coloured paper shows itself. Some raise objection to the inevitable relaxation of discipline, but already the usual routine has been continuing for a week and no one seems any the worse.

Those who were dreading their first Christmas away from home are reassured. They have found Guy's free from the jealousy which obtains in most family gatherings. There is always the poor relation who resents his rich cousin's better fortune, and, conceal it as he may, the feeling upsets the harmony of the gathering. Up here, these sentiments, if they do exist, do not intrude on the general atmosphere, for rivals can always avoid each other by celebrating in different wards. Then there is the joy of touring the Hospital to inspect the decorations, and the expressions of delight at the door of each ward are ample recompense for the host's efforts.

Massa Johnson, the well-known surgeon, did his usual Christmas Day combined round. Every year his retirement seems imminent, but somehow he always manages to postpone it until after Christmas. His firm showed the usual high standard, and the technicality of some of the expositions spoke well for its keenness. It is but once a year that the patients get such an insight into their own ills; may he continue to operate as long as Guy's exists.

Much discussion has arisen as to the questionable taste of the "Nigger's" jokes. One should remember that the entertainment has always been held for the benefit of the actual inhabitants of the Hospital, and that most of the comments and complaints seem to have originated from visitors. Without condoning unnecessary vulgarity, we feel that our humour is our own concern, and that a little robust Rabelaisianism is a healthy accompaniment to Christmas festivity.

The Nurses' Dance, an account of which appears elsewhere, rounded off the holiday junketings. It was generally agreed to be the most successful yet held.

So we are left feeling rather flat at the beginning of a New Year. Let us swap our good wishes and break our resolutions, and, above all, let us be thankful to return to a routine existence which does not disturb the equanimity of mind or stomach.

HEARTY congratulations to Mr. Ferguson and Mr. Reading on obtaining their M.S., and to the former for winning the University Medal.

WE would remind our readers that subscriptions for 1934 are now due. Cheques should be crossed and made payable to the *Guy's Hospital Gazette* and sent to The Manager, *Guy's Hospital Gazette*, The Counting House, Guy's Hospital, S.E. 1.

The Niggers, 1933

GOOD Old Yuletide! Residents come and Residents go, but the "Niggers" go on for ever (we hope).

At 11 a.m. on Christmas Day a heavily disguised band of Housemen invaded the Surgical Wards and burst into Evelyn. Whereupon a quartette of stalwart O.P.O.'s quite needlessly proceeded to assure us that they were young and healthy. Mamma Johnson (Bowen-Davies) intervened to sing "Isn't it Heavenly," in her most charming manner, followed by a parody extolling the skill of the Mollison firm, which we append:—

If your tonsils bulge and swell,
The Molly firm will do you well.
Dissections are our *forte*, so they say;
If you have a bulging drum,
To the Surgery you'll come,
Then we'll do your myringotomy.

For isn't it Mollison who takes a look at your ear,
Then he knocks you off your 'baccy and restricts your beer;
Oh, isn't it Mollison, just Molly alone, who'll do the job?
For isn't it Mollison who takes a look at your nose?
And the condition that is present he will diagnose.
Oh, isn't it Mollison, just Molly alone, who'll do the job?
Our intranasals, with these new basals,
Are just a dream that's come true;
And when you're able, you leave the table,
Quite pink, although you feel blue.
For isn't it Mollison who'll do every op. for you,
He'll dissect for you, he'll chip for you, he'll chop for you—
Oh, isn't it Mollison, just Molly alone, who'll do the job?

By this time John Howell had become quite irrepressible, and loudly asserted that "There's something about a soldier."

Pat. and Sam. was visited next, and five extremely elegant A.H.S.'s crooned a blues. Crowther-Smith came over all astronomical, and told every little star. The R.O.'s then recounted how they had a severe attack of heart-block in "My Heart Stood Still":—

We have a varied range
From ladies past the change
To babes in utero.
All forms of human vice,
Lots of things not quite nice,
We are supposed to know.
The confidential things they tell us under bated breath
We dare not mention now—there are things worse than death ;
But what they tell to Nurse
Is ten times worse—
'Cos they think that we're too young to know.

Descending to Naaman, Miller apologetically sang, " Don't blame me " and the following parody :—

When on Monday morn you come to see us,
Have waited for us—have waited long,
Stuck upon a bench in O.P.'s
Till we come along ;
How you wish that you had bought a paper, a picnic luncheon, or even tea ;
But at last you'll stand before us, and there you'll see—
T. B. L. !

He'll see you in your turn.
The patients revere him,
Deafest can hear him—
T. B. L. !
You will need the wisdom of Socrates,
To hear him for hours
Talk of the powers of Hippocrates.
You may tell him that your tonsils must come out.
He'll just shout ; ask you how you found out.
Try our Glegg's and come again in the Spring,
When, if you are lucky and very plucky,
You'll come in.

Kilpatrick reminded us of " The old folks at home," and a very fierce-looking Drummond sang " Down among the dead men."

In Luke, Massa Johnson himself (Payne) sang " Lazy Bones " very effectively and a parody on the hard-worked Take-in H.S. :—

If you've an appendix or a fractured rib,
If you come in tight,
If you're perforated or a tib. and fib.
We will put you right.
If you come to Job, why then you're in luck,
For Philip is the man to see when you're unstuck.
If you have a lump below each time you cough,
He will lop it off.

Taking in, working all the day ;
Doctors ring me up, they always say,
" Must be opened up to-day."
Enough to make your hair turn grey ;
Taking in, working all the night,
So tired, I haven't passed out yet, but might
If I get to bed at all.
Dragged up, for another call.
" Number Nine's got retention, he'll need your attention ;
You must pass a catheter now."
The Balkan beam's broken and—oh, I'm not jokin'—
I'm no more than a carpenter now.
Telephone ! buzzer's gone again ;
Run, because I'm wanted urgently.
Rush down to the Surgery—
And find it's just a B.I.D.

Father Gill, with his accordion, asked us " What shall we do with the drunken sailor " in a most convincing manner. The immaculate A.H.S.'s produced " I've got a date with an angel "—presumably not with a certain popular film actress.

After a brief pause for fluids ++, we went into Lydia to hear a dissipated-looking parson in the person of Grocott tell how he managed to keep his living in a place called Bray. We still think he should be unfrocked.

The A.H.S.'s returned from their important engagement in time to sing " Look what you've done " and the parody :—

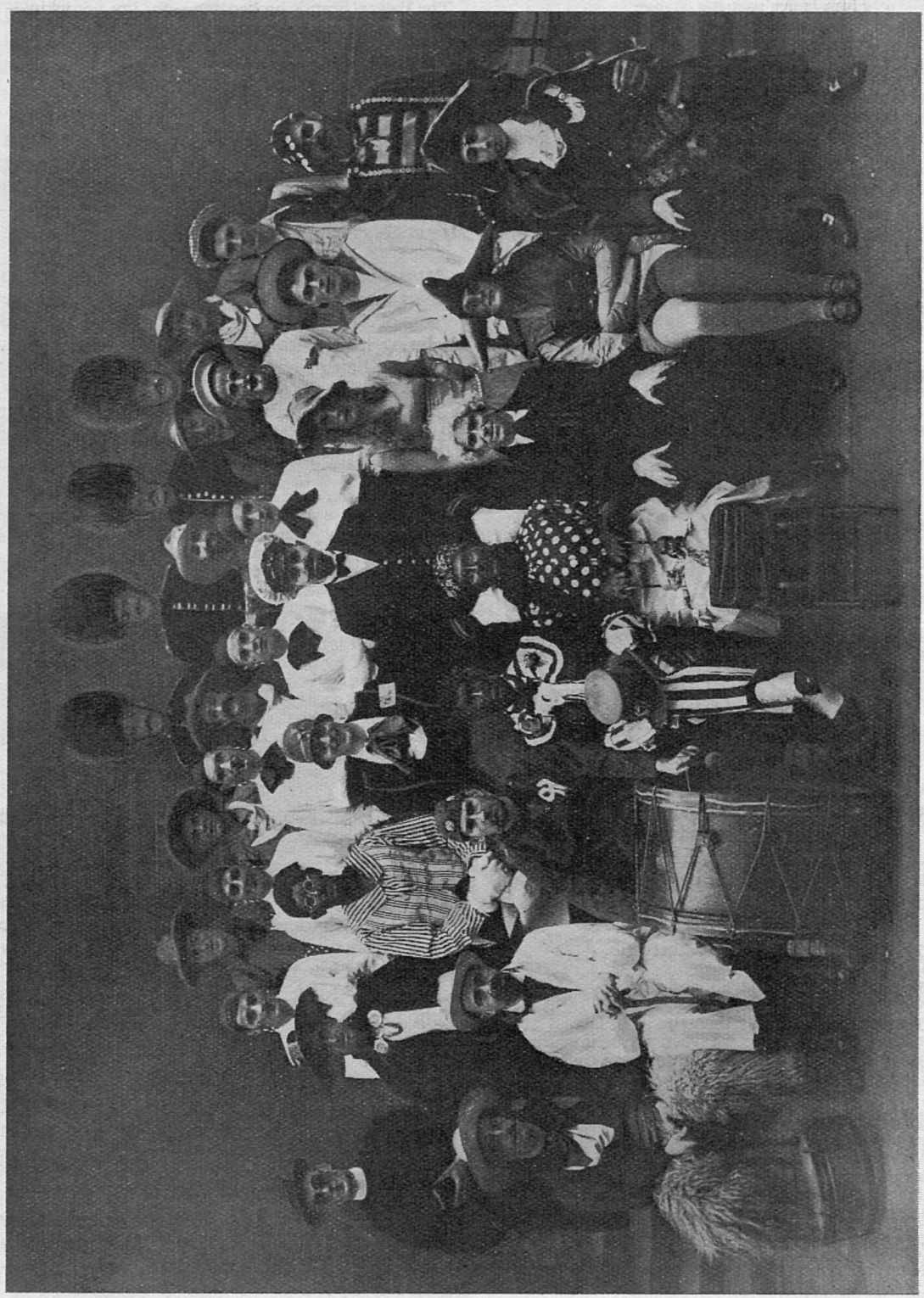
Look what we've done !
What did we wanna give that pill for ?
What did we wanna make 'em so ill for ?
Look what we've done.
Look what we've done.
What did we wanna do that op. for ?
What did we make his heart-beat stop for ?
Look what we've done !
For in the Borough they could once stroll about,
And chat by the old " Ship " door ;
But now we've been and took their stomach half out,
So they'll get their pint no more.
Look what we've done !
What did we give 'em Evipan for ?
What did they bring the old black van for ?
Look what we've done !

Kilpatrick's thoughts were still with the Old Folks.

Arriving in Martha, Curtis became surprisingly sentimental over " The night when love was born "—we wondered if he was anticipating the Nurses' Dance. Everyone was very moved by Ratcliff and his terrible story of a lost baby. Howell tried to persuade us to take The King's Shilling again, and after this the " Niggers " disappeared in various directions in search of food.

An hour later they re-assembled in the Out-Patients' Hall to the delight of the crowds of Borough children who had come to the Landon Tea. After singing some choruses, a visit was made to the Children's Ward.

Amid the cobwebs in Ruth, Red Ardle suddenly confided to us that he was " Off to Philadelphia in the morning," and sang the following neurological parody :—



THE NIGGERS, CHRISTMAS, 1933

If you've tabes or meningo—
Myelitis or syringo ;
If you drop whate'er you're holding without warning;
If you have the lightning pain
Which you think is just migraine,
Well, you'd better go to Symonds in the morning.

To stagger home one day
In a drunken sort of way,
Need not be alcoholic, but the dawning
Of a cholesteatoma,
Or perhaps a migraine coma—
Yet who would know but Symonds in the morning ?

He will test you with jerk hammer
In a threatening sort of manner.
His jaws will twitch and all his muscles quiver,
If your pupils won't react,
If with life you've lost contact—
That's G.P.I.—Gillespie in the morning !

The O.P.O.'s caught the wanderlust and decided to " Shuffle off to Buffalo," and then sang the parody below :—

Now that we've been coming up to Guy's for seven years,
We've begun to realise,
With many fears,
These pills were had before,
We've had medicines galore,
With liniments rubbed here and there.

But we still have our bronchitis,
Our angina and arthritis,
And our back aches so—
Oo, oo !
Still we have to shuffle,
Shuffle to the O.P.O.'s.

Our headaches still are foul,
We've a constipated bowel,
And our spirit's low—
Oo, oo !
Oft we have to shuffle,
Shuffle to the O.P.O.'s.

Some day we'll meet a new physician,
Who'll examine us anew ;
Who will cure our inhibitions,
And every sexual complex, too.

Then we'll have no more hot flushes,
But we'll take to maiden's blushes,
And away we'll go—
Oo, oo !
Off we then will shuffle,
Cured by the O.P.O.'s.

Meanwhile, Grocott was still confident of remaining at Bray.

In Queen we appreciated Charles Baker, up from Dartmoor. He is finding his quarters comfortable, and he told us about his " Room With a View." The R.O.'s became pulseless, Ratcliffe lamented his lost baby, and Crowther-Smith saw stars again.

In Mary, Fagge hinted at Divorce Court proceedings in " The Talk of the Town." We were sorry for Black Ardle, who started seeing animals, but he wasn't afraid of the big bad wolf. Cyril Clarke looked sweeter than his voice sounded in " A-Roaming."

Bright Annexe was treated to some choruses.

In Clinical, six very tough-looking young gentlemen shook the walls and everyone else with their rendering of " The Old Pig and Whistle," " Down in the Valley," and " He was a handsome young Soldier," of which we print the parody :—

We stand in horror of
The treatment of Voronoff ;
We need no cantharides.
We merely take our fun
Before our life's course is run ;
Youth leaves us by degrees.

Chorus—
He was a very daring young doctor,
She was a very shy junior pro. ;
They met strolling on a night round,
As all Guy's men do.
He tried to look innocent ;
She knew exactly what that meant.
He had a very speedy red sports car ;
She wasn't half as green as she looked.
Use your imagination what happened because
He was a very daring young doctor, he was !

In Stephen, Falconer identified someone as being his baby, the H.P.'s were well together in " Father O'Flynn," and Fagge was still being scandalous.

In Addison we heard Clarke, the Clinicals, and Black Ardle still keeping the wolf at bay.

Then there was a dash back to the Surgeons' Room for tea and other stimulants. After tea we went to Dorcas, to find Drummond having lost his whiskers in very good voice. Mamma Johnson obliged again, and Miller refused to be blamed.

In Cornelius, Curtis still waxed sentimental and Massa Johnson was in good form. Red Ardle re-announced his imminent departure for Philadelphia.

Finally, in Astley the O.P.O.'s were bursting with youth and health. Gill and Baker sang again, and the H.S.'s ended the proceedings with " Old Man River."

The choruses were well sustained and very few Niggers forgot their words. De Gruchy, in spite of his silver hair, was as good as ever at the piano, and the Niggers are very indebted to him for his alertness in following their sometimes rather unorthodox rhythms.

Long Live " The Niggers " !

W. H. B.

Christmas in the Wards

ASTLEY-COOPER

SAFETY First was the scheme of decoration this year in Astley-Cooper, and a constant stream of admiring visitors testified to the success of the idea. The automatic traffic signals, the work of Messrs. Wayte & Hills, were the outstanding feature of a decorative scheme generally voted the most original seen in Guy's this Christmas. A word of thanks is due to the Automobile Association for their kindness in lending us so many of their road-signs.

The " Niggers " visited us late in the afternoon of Christmas Day, and turned up strangely fresh and bright considering the amount of work they had put in since their early start. Father Gill, the O.P.O.'s, and " Charles " went over big, and even if some of their more intimate allusions were lost on the patients, the large audience of hospital staff saw the point every time ! We had hoped to hear " Kilp " in some of his operatic successes, but his vocal chords had given out under the strain of his long day.

On the Wednesday we had our Visitors' Tea, during which Messrs. Forbes & Hills very kindly entertained us with songs at the piano, having first found some Dutch courage in Sister's room. Nurse Arthurton also sang to us, and rang the changes from alto to mezzo-soprano with great success.

Altogether a most enjoyable Christmas, and we owe a debt of gratitude to Sister Astley-Cooper and her nursing staff for the hard work they put in to make it possible.

EVELYN

On December 23rd, Evelyn was changed into " The House that Jack Built." For some time the animals and people in the famous rhyme had been waiting for the great event, and at last their joy was full when they delighted the children and other patients in their various attitudes on the rafters and walls. The children were in bed, or the Christmas tree never would have taken root in the tub and the toys and fairy lights would never have been allowed to reach their appointed seats on its branches.

On Christmas Day the patients were delighted with the stockings Santa Claus brought, and being woken early was for once no hardship. The many children were all dressed in pink frocks with hair-ribbon to match, and by 11 o'clock were all seated waiting for " The Niggers." Several children who had been patients during the year came up to enjoy the festivities, and were all given presents.

The " Niggers " gave great amusement to all but two wee ones, who thought they were genuine, and the soldiers and real niggers proved too frightening.

The rest of the day went very rapidly, but very happily.

The Visitors' Tea was one of the most enjoyable events. All the patients had their friends and relations ; there were more old patients and nurses present, and everyone was very much at home in " Jack's House."

The children were very kindly invited to a party in Bright Annexe on Thursday. They came back very thrilled and laden with " snow-balls." All adults possible were taken to Eyes for a very enjoyable concert.

On Thursday, too, we very sadly took down the House, and the animals and figures are once more asleep in the cupboard.

ADDISON

The Christmas celebrations in this ward were brought to a close on Thursday, December 28th, by a concert in which several well-known B.B.C. artists appeared.

An excellent and varied bill was greatly appreciated by the large audience of patients and visitors.

The star turn was provided by Norman Long with some funny stories told in his inimitable manner and a very amusing Cockney song.

Bertha Willmott's catchy songs were also very popular, although she had a job persuading the audience to sing the choruses.

Other artistes who took part were Harold and Vivian in syncopated songs ; Walter Badham, the Lancashire comedian ; William Hazeltine, whose rendering of the Song of Songs was well received ; the V.C.H. Trio, and two ladies in a delightfully absurd little ditty called " There's a Hole in my Bucket."

CORNELIUS AND LAZARUS WARDS

Christmas Day itself passed quickly, quietly and happily. The " Niggers," who appeared rather late in the afternoon, were greatly appreciated by the patients.

The festivities here reached a magnificent conclusion with the Annual Concert. An old patient—who must be a very grateful one, indeed —kindly arranged the artistes and such names as Harry Hemsley, the Western Brothers, Norman Long, Gordon Marsh—a few taken at random from the programme—speak themselves of the quality of the entertainment. The audience,

among whom we were very glad to see the faces of many who have now left Guy's, gave the performers the reception they deserved. Mr. Curtis, in a short speech at the conclusion of the concert, offered our grateful thanks to all the performers, and especially to Mr. Gordon Marsh for making himself responsible for the programme. It is worth recording that out of all the artistes who promised to attend only one failed, and he was lost somewhere in the hospital.

Among many others, we would like to thank Sister Veronica for the loan of her powerful wireless set and also the Jaegar Company, of Cheapside, for the gift of their window decorations.

THE EYE WARD

Visitors to the Eye Ward last year will retain a vivid picture of life under the sea. This Christmas, Sister's thoughts soared higher and, from the dangers of the deep and Loch Ness " monsters," she led us aloft, where, under the rising Sun in Ruth and the setting Sun in Barnabas, we mingled with birds of every genus and colour. It was all very attractive, and, if we did not feel quite in Paradise, it was an appealing phantasy to dream of an Eye Ward where for at least four days in the year the Sun might shine and the song of the birds be heard.

The Christmas celebrations were jovial, and the finale came on Thursday with the Ward Concert. The artistes were the same as the previous year, and as many of them are regular performers for the B.B.C. it can be assumed that they well knew how to amuse both the blind, the deaf and the lame. Even those regular hearties who, by force of habit, stood at the back, hands in pockets, buttressing the corners, could be seen to laugh and shyly tap their feet to a swinging rhythm—a sure proof of real success.

For the generosity and real sense of homeliness that prevailed in the Eye Ward this Christmas there are many who would like to thank and appraise Sister and her nurses.

QUEEN AND VICTORIA WARDS

Queen was decorated with most convincing apple blossom, and, to further its spring-time promise, large quantities of that gynæcological parasite, the mistletoe. Victoria, interested in the facts of life rather than the promise of Spring, took the Old Woman Who Lived in a Shoe as her patron saint, and much massive footwear was to be seen—not of the " K " brand, strange to say.

Of the Christmas dinner a coherent account would be inaccurate. The memories left are of a vast throng, frenzied carving, R.O.'s with bottles, and the forced feeding of late-comers.

The " Niggers," who sang in Queen, found a well marshalled audience, and when they experienced the joy of marching to their places without pushing away the crowd, they were gratified to see that most of the audience could see them. Their way out took them round Victoria, where the babies took little notice—but the appearance of the big drummer and his followers was nearly successful in producing an entirely new baby.

No ward concert was held, but large and well-attended " teas " took its place in each ward.

Mr. de Gruchy was kind enough to bring a small party of ex-Niggers to sing their songs on Wednesday evening, and all nerves were later soothed by the more polished performance of Nurses Sambrook and Lomax.

STEPHEN

The activities of the patients and nurses alike throughout the whole of December resulted in a pleasing streamer effect in red and green, which matched the holly on the bed brackets and yet did not clash with the mistletoe over the Ward Clerk's table.

There was no set concert, but on Wednesday the visitors sat down to a sumptuous tea, the eating of which was aided by music of incredible variety. All tastes were catered for through the tuneful talents of Nurses Arthurton and Lomax, from the variety of Messrs. Forbes and Hills to the louder cacophony of certain ex-Niggers.

CHILDREN'S WARD

The Bermondsey and Rotherhithe Memorial Ward lived up to its reputation of being the happiest little ward in the hospital. Outside illuminations invited us in. There we found a tastefully decorated ward representing the Old Woman in the Shoe. Set in the middle of woodland greenery was a happy party of children thoroughly enjoying their Christmas dinner. Beyond this there was an illuminated tree laden with toys of every description, later to be distributed by Santa Claus at the children's party.

The yuletide festivities went with a great swing, and Christmas was voted by all to be a great success.

THE LANDON TEA

The Out-Patient Tea was one of the entertainments to be both seen and heard on Christmas Day. The first and biggest thrill of the afternoon was due to the arrival of the " Niggers " shortly after 2 p.m., who proceeded the length of the Hall to the platform and there sang choruses vigorously, whilst the kiddies gazed in admiration, too excited to join in.

After the " Niggers " left, with the assistance of Murray Pilcer and his band the children themselves sang lustily; strangely enough, the wartime choruses were first favourites this year.

Then followed competitions in singing, balloon blowing, etc., the chief difficulty being to restrict the number of would-be performers.

A cinematograph was then waiting to show Mickey Mouse, Felix the Cat, a peep at the Zoo, and other screen delights, and, this over, a mad rush ensued for the Christmas trees, where a superabundance of toys were dispensed, and at 4.15 the Landon Tea was once more a happy memory for the children, and everyone who took part in any way.

DORCAS

Dorcas Ward, as " Babes in the Wood," was considered to be worth a visit this year, if one went by the number of people, old and young, who visited it.

Rabbits, squirrels, owls and foxes gazed stolidly out upon the world from " paneful " quarters all around the ward. Wicked uncles, robbers and mournful babes adorned each fireplace, standing rooted to the chimney-pieces (by Stickphast); only when the lights were out did one see their shadows flit and flounder about their dark and dreary deeds.

In one forest glade, between two fir trees, lay the Orphans, half-covered with leaves which robins had dropped there (or so we are told).

Two " blasted " oaks from which two robbers peeped completed the tableaux. These very life-like figures in each case were drawn, painted and cut out by Miss Eileen Weller, a former patient in Dorcas.

The Concert, which was a great success, was held on Thursday, 28th December, and was organised by Miss Weller's father, who is well known at Guy's from previous years, to whom we give our grateful thanks.

MARTHA

Those who were lucky enough to be able to visit Martha during Christmas found the ward gaily decorated with autumn colours. On Boxing Day the Concert was well attended, and everyone enjoyed the music, singing and dancing. A special feature of the afternoon was the Marionette Show, an unusually attractive performance given by Mr. McKay. And it came to pass they called it a day, and made it a jolly good Christmas.

JOB

Christmas in Job brought about the usual amount of work and enjoyment, though the latter predominated. As " A Pack of Cards," the ward looked cheery, and thanks are due to those who swarmed up ladders and decorated the walls with hearts, diamonds, clubs and spades.

The patients began Christmas day well by enjoying their stockings, and were in excellent spirits when the " Niggers " arrived at mid-day. The songs and riddles were greeted with much applause, and seemed to give them a good appetite for the Christmas dinner, which followed immediately.

Tuesday and Wednesday were comparatively quiet days. The Ward Concert was on Thursday, and voted by the patients to be a great success. The same evening we said goodbye to the pack of cards, and once again the men turned up trumps and did the spade work.

PATIENCE AND SAMARITAN

Beneath a mass of balloons and streamers (under the watchful eyes of many and varied " Aster imps ") Samaritan mixed with Patience this Christmas to partake of an excellent tea and to enjoy an admirable concert. No less than 40 children were assembled, and their shrieks of applause bore witness to the success of the Christmas Tree, with a real Santa Claus, which was, as usual, most popular.

Selection is, perhaps, invidious in an appreciation such as this, but mention must be made of the Nativity Play, ably produced by Miss Russ, which was beautifully portrayed and thoroughly enjoyed.

The grateful thanks of all are due to Sister, the nurses and other willing helpers whose efforts contributed so largely to the success of the afternoon.

NAAMAN

All visitors to Naaman for the Visitors' Tea and Ward Concert on Boxing Day must have been struck by the remarkable way in which the spirit of Carnival depicted on the door was fulfilled in the gay decorations. Amid such colourful surroundings, the large audience could not fail to be appreciative of the concert.

Nurse Arthurton opened the programme with Gilbert and Sullivan, delightfully rendered. Then Miss Bowes, among other pieces, played " Marigold," and set everyone's feet tapping to that fascinating rhythm. Recitations by Miss May Brown followed. These were excellent, and refreshingly free from the irritating affectations so common among juvenile elocutionists. Local talent, in the shape of Mr. Hills and Mr. Forbes, suitably but not impenetrably disguised, then appeared, and harmonised quite surprisingly with

the help of Mr. Kaplan at the piano. The last-named wound up a very successful concert with some brilliant improvisations on jazz themes.

CHRISTOPHER

This year the ward was most successfully decorated as mediæval England, and the towering buttresses over each patient's bed made each one of them a veritable bold bad baron in his castle.

The annual Christopher-Naaman Concert was held on Boxing Day and was an unqualified success. A very large number of friends and relations attended, and accommodation for all was hard to come by. Our grateful thanks are due to all who took part in the concert, notably to Messrs. Hills, Forbes and Kaplan for several amusing songs. Nurse Arthurton's singing was received with much applause, as was Nurse Jellibrand's dancing. Next came a welcome band of Scots complete with kilts and bagpipes, an item that was very much enjoyed. Finally, Mr. Fitzgerald brought along three variety artist friends of his, but, unfortunately, did not disclose their names. These three proceeded to "bring the house down" in no uncertain manner. To all those who took part in the concert our grateful thanks are due for a most entertaining afternoon.

MARY

Lavender and its homologues were the *leit motif* here. The decorations were quiet and refreshing, and a wooden lavender lady hid herself coyly in the far division.

On Christmas Day the "Niggers" were attended by a large crowd which threatened completely to engulf the performers.

No Ward Concert was held this year, but Nurse Lomax played her violin to patients and their relations at the tea party.

LUKE AND LYDIA

Luke developed a very athletic appearance during Christmas week. Almost every kind of sport, from hunting to hiking, was represented by attractive posters, which decorated the beds, walls, and even some of the screens.

We are fortunate in having no very ill patients, and those who were there were able to take full measure of the fun. The Ward Concert took place on Boxing Day, and Sister is to be congratulated on the excellent band she obtained for the entertainment.

Lydia decided to "say 'Happy Christmas' with flowers," and whell all decorations were completed a very pretty picture resulted. Sister, as usual, was in very good form, and was visited by many old friends. The happy time enjoyed by all was in no small measure due to her kindness and thoughtfulness.

MIRIAM AND JOHN

Clinical showed the unusual phenomenon of simultaneous Spring, Summer, Autumn and Winter. The visitor beheld the front division of Miriam bedecked with the cheerful buds and light greens and yellows of Spring, shivered his way through a Wintry back ward, and warmed himself in John among the Autumn tints and Summery skies.

The decorating tea was a sharp preliminary round to the more serious sparring of Monday. The contest reached its climax at Christmas dinner, when Sister led with a right hook to the turkey, while the Clinicals countered and left no hock. The "Niggers" came at about 3.30 p.m., and sailed close to the wind with three rousing and well-appreciated songs.

The festivities abated on Boxing Day, the Ward Concert being held on Wednesday. Nurse Arthurton charmed us with three songs, and was followed by Nurse Lomax and her violin. Nurse Jellibrand gave an exhibition of Spanish dancing, and more than fulfilled our expectation. Messrs. Forbes and Hill sang comic songs, "Knocked 'em in the Old Kent Road" being much appreciated. During the afternoon battered remnants of the "Niggers" reiterated their songs, assisted by Charles de Gruchy at the piano.

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The Editor will, at all times, be glad to consider articles or sketches, provided that they are accompanied by the writer's name and address, not necessarily for publication. The payment that the GAZETTE can offer is merely nominal. Authors who desire reprints of their papers should make their own arrangements with the printers when they return their proofs. All contributions to be addressed to *The Editor*, who does not accept responsibility for the views expressed by contributors.

The Nurses' Dance

IT is an axiom that the Nurses' Dance is the most enjoyable function of the Guy's year. This year it proved no exception. There may be more musical talent with Roy Fox, there may be more manipulative skill in steering a partner at the Savoy, there is more alcoholic *joie-de-vivre* at a birthday party, but nowhere are people more bent on enjoying themselves than they were in the Home on December 29th, 1933. It is, in fact, our annual outing.

At an incredibly early hour bespoke tailoring and pale crepe de chine could be seen gathered together in the Colonnade. The wearers' faces were vaguely familiar, but the *tout ensemble* was truly and fascinatingly remarkable. Dubarry and spit and polish were the order of the evening. We have never ceased to wonder how it is that for 364 days in the year cruelly stiff linen can hide such pleasing form and fairness of feature as is revealed in that other solitary day of the year.

"But what of the dance?" you say. The measures were in turn slow and stately, fast and hectic, rhythmical and difficult to suit all tastes, and all were trod with gay abandon; the buzzer between the two bands buzzed with exasperating efficiency. We had not the time to notice the firm solidity of the mosaic floor, the inclination to observe the brevity of the intervals, or the hunger to note the delicacy of the sandwiches; gaiety was upon us, the sofas were comfortable, our partners were bewitching. We thank the Matron, the Sisters, and—not least—our partners for, as I've said before, such an enjoyable evening.

C. H. F.

The Sayings of Professor Pembrey

(We are indebted to Dr. W. G. Sears for the following collection of the wise words of Professor Pembrey and also to Professor Evans for advice in editing them. Some are obviously not original, but we have included only those which we feel are stamped with the Pembrey hall-mark. We feel that there must be some of our readers who can recall many more, and we invite them to send them along so that a second collection could be published.—EDS.)

Gentlemen, I assure you that I am perfectly serious.
I am imbued with the missionary spirit.
I protest against this repulsive doctrine.
Don't believe a word I say unless I prove it.
Some people, like myself, are incompatible; they cannot get on with anyone.
Common things commonly occur.
Agitators are over-educated degenerates.
What you forget is this: thinking is work.
Your Physiology ought to be like your Religion—a question of daily appreciation.
Directly the mysteries are removed from Physiology it will cease to be the most inspiring science. I, for one, will go in for Theology.
No new process comes into disease which does not come under physiological conditions.
To the pure all things are pure.
The physiologically normal person peacefully contemplates eternity in old age.
It is not a disgrace to know something in Physiology. It is a sign of Grace.
You forget the psychological point of view. Some people think it is everything; I don't.
Disease is in the scheme of Nature and is therefore good.
You do not, of course, tell the public too much. It does not pay.
It is impossible to specialise without paying the price
Mob all examiners who appreciate frivolity.
You can't bluff the examiners.
Frills and suggestions produce immorality.
A silk stocking is more attractive than a bare leg.
The men can work in the Colonies because women are not there to attract their attentions.
Even women who say they cannot do hard work will dance to a jazz band.
There is no such thing as purity, mental or physical.
Dental caries is proportional to the number of dentists advocating tooth-brushes.
Likes and dislikes are physical expressions of physical needs, especially in children and invalids.
On a chemical basis it is an ideal thing to be a cannibal.
Food that is unclean is not poisonous.
A perfect food is one which builds a perfect body.
The food must be adjusted to the work obtained from a man or beast. A truth which, if neglected, ends disastrously. A man or horse works best when well fed, and feeds best when well worked.
Some people think you can only live by knowledge and science. These are the biggest fools and

often leaders of thought. Man has existed for thousands of years without either.
Pure water alone is a poison.
Of course I shall work out an answer to get out of the difficulty.
It is stock that counts.
I believe in predestination.
Good looks mean something physiologically.
Farm-yard morality is infinitely better than social morality.
Read your Bibles.
All things work together for good.
The man with a bad reputation is always a favourite in the drawing-room.
We begin to die before birth

On Reading in Bed—and in Some Other Places

MANY have written on reading in bed; let us, then, at once pass on to some other places. And first—the bath. If there were no other, the fact that it stops one singing in the bath-tub were reason enough for this excellent habit. And yet I find but few that practise it, and have met but two that were enthusiastic about it. The one was a surgeon who clearly recognised the value of a hot tap that could be turned on by the toe—for thereby fresh water can be added and arouse a new glow as the former waters cool. The other is an engineer, who tells me of different gadgets he has devised whereby to improve the technique of balneolection, for so we may call it. By one he prevents the water running down the waste-pipe and raises the level to cause the shoulders to be covered, and another is a rest for his book stretched across the bath like that which holds the soap and sponge.

Almost anything can be read in the bath; almost anything can be read anywhere. As we shall see, it is the other factors that vary rather than the subject. And with the bath this factor is the time of day. The morning is not too suitable, with other members of the family all clamouring to follow (or they ought to if they do not) and a bus that needs the catching. But I always insist upon Robert Lynd's article in the *News-Chronicle* on Saturday morning. It gives a dose of healthy sense to last over the week-end. The evening is good in that quiet time between tea and dinner. It was then that I first learnt it. My mother had the rule that on Saturday evening we children must all dress for dinner; and so on reaching home after football I retired to the bath-[1] room with a pot of tea, some cigarettes, and my week-end novel and read there till the youngest and most vigorous of my sisters came and rattled the door. This she did so powerfully that every week I thought the lock would burst, and leaped up to cover myself with a towel before it gave, and then it was no good to settle down again.

But the best time is Sunday afternoon. Once upon a time, until the L.C.C. disturbed me, I had a house down Clapham way with a large garden, and in this garden would I potter all Sunday morning, burning weeds and nailing loganberries, or performing such simple acts of husbandry as I was capable of doing, and always meaning to get dressed for mid-day dinner, but never succeeding. And so, after Sunday dinner, when the elders took their naps and the youngsters had perforce to be silent or go out, I retired to the bathroom. This is the time and place in which to read Milton. When all other sensory stimuli are removed, then all the attention can be given to his verse. The demands of the body as to exercise and food were satisfied, the house was still within, the road without was silent with all the silence of that Victorian Sabbath which lingers yet only in Clapham and such suburbs, and the warm water gave that negation of stimuli which is, perhaps, the pleasantest of all the sensations of touch. Then can one rise to the height of thought, the splendour of diction and the beauty of metre that combine to make up Milton's verse. I do not think anyone should read "Paradise Lost" before he is 30. His soul—whatever that may be—is too undeveloped before that age; and when he takes to it let him do so settled in a bath whereof the hot supply will not give out and at a time when all around him is at rest.

I would not have it thought that I know Milton well. I feel a hypocrite when I mention him in some persons' hearing. I have a colleague to whom I mentioned Milton after dinner, and he thought I really knew him and began to talk. He quoted him and compared him. He seemed to know him all by heart. He mentioned emendations that he would suggest, and exegetical annotations he had discovered for himself, and he entranced me till near midnight. Fortunately, he was so keen he never discovered how little I knew of the poet. I had not then read "Paradise Lost" all through.

1. This was the bath of which the hot tap could be turned on by my foot.

Those who are ill often envy those who are well. But those who are never ill envy those who are so occasionally. I had long made up my mind to read through " Paradise Lost " when I got ill, but, except for a bruised semi-lunar as a dresser, had never had an excuse to stay in bed since the measles. My chance came a year or so ago with a boil for which I took myself to a nursing home, and used to wake at 5 a.m. and ring the bell, and the old Scotch nurse shuffled in in slippers, and went again, and came again, with a strong pot of tea ; and then I settled down and read " Paradise Lost " till the day staff came on duty and smeared a slimy flannel over face and hands and called it washing me. Yet under these ideal conditions of reading in bed I agree with Johnson,[2] that " no one wishes it were longer."

And the next place to consider is the closet. And pray, ma'am, why should your husband not read at stool ? Does not one physician teach us that it is all a matter of a proper relaxation ? And does not this occur the more readily the less one thinks on it ? And yet another physician teaches us that the important thing in the treatment of constipation is to develop some ritual. I have often considered whether we owe those calendars with a short extract for each day of the year to a subconscious desire to read in this usual office. Many use the newspaper. There is a wonderful description in James Joyce's " Ulysses " of a man at stool after breakfast. He was reading the paper, and you can almost hear the rip as he tears a piece off. But it is more suitable for a text-book of physiology or psychology than for a novel, and stopped me going any further. I developed the habit myself on a visit to my aunt. She was a tiny lady left over from the mid-Victorian period, and had a little house kept so spick and span as can only be done with the aid of a competency and a faithful servant. On a little bracket was a commentary on the Psalms and a candle in a brightly polished brass stock, and there from year to year at different visits I read all the commentaries, and grateful I am for they have made me love the Psalms to a degree that otherwise I might never have done. I almost feel as though these were the few minutes left over from a wasted boyhood. Lord Avebury's works are excellent closet books—not his monograph on the monuments of Stonehenge and Carnac, but those chatty ones on the Pleasures or Duties of Life, strings of thoughts from the best authors joined together by a few words of his own. You can pick them up and lay them down again at once, and always with benefit.

2. I quote this from "H.H.A. Letters to a Friend," page 27. The original will be found in the "Life," para. 252 of Birkbeck Hill's Edition.

Then there is reading in the tram, bus, and tube. In this a special type of reading is advisable. It lends itself to the collections of letters or those biographies made up of letters with short connecting notes. One can read one or two, slip in the ticket, change at the Elephant, and get through two or three more by Oxford Circus. It is wonderful how much you can get through in this way, and therefore how much one misses by taking a car. One can only read in a car if one is a plutocrat with a chauffeur. This car problem is serious. The younger generation is gummed to them. It seems to think it *infra dig.* to arrive at the hospital without one. It is laying up for itself a store of lumbago, gout and other metabolic troubles of middle age from losing that moderate exercise involved in walking to the station, and it is losing a lot of mental exercise by missing the only times that many of us have for secular literature. There is one rule that must be made for train or bus—it was Prof. Pembrey that laid it down to me : You must never read shop therein. You must not advertise your profession, not even as a medical student, with a copy of Gray's " Anatomy " between London Bridge and H.O.P.

I have given up reading in the streets. They are so exciting, everybody's face is worth looking at, there is something in it to note or to think about. Or, perhaps, it is because it is too strenuous to-day to do so. I re-started after the war and got hold of Hardy's " Dynasts " that I had not heard of previously. It gripped me and I went on reading it, till one day I found myself in the middle of Oxford Circus with three buses bearing down on me at once. You could do this with the old horse traffic, but not to-day. Before the war I lived at St. John's Wood, and remember reading the first two volumes of Monypenny's " Disraeli " crossing Regent's Park. We all wore top hats in those days with tail or frock-coats. No registrar would have dared appear in anything else—except, perhaps, on a Saturday. And you could not smoke a pipe with them under ordinary circumstances. But arrived at the park I used to light a cherry-wood pipe, take two turns in the bottoms of my trousers, put the top hat on the back of my head, and my umbrella under my arm, and so plough my way reading of young Disraeli from the North Gate to the Inner Circle. When there, the pipe went into my pocket, one turn came out of the trousers, my hat assumed a proper angle, and the crock of my umbrella circled one forearm while the book was under the other, and so, sedateness itself, I walked down Wimpole Street quite thinking I was the coming consultant. It is well to be able to look back on

such memories; will a rushing car give the same in another 20 years?

And so to return to bed. It is very meet, right and our bounden duty that we should at all times and in all places read in bed. But there are no bed books. Any book that suits the mood of the moment should be read. There are bed volumes. You cannot read the Encyclopædia Brittannica in bed. The volume must be light and relatively small, the print clear and well spaced; but, given these, you can read anything. There are some books you must not read—at least, not if you want to sleep; these are exciting books that carry you away. I bought "Tess" in a second-hand *Tauchnitz* shop in Berlin, and started on the first volume one day. I continued it in bed and shut it as the clock struck 4 a.m. This should have been a warning, but, alas! I began the second volume in the next afternoon, and heard the clock strike 4 a.m. again. I did the same with "Bull-dog Drummond" the day it came out, but, luckily, it did not last so long. There is another book just out will do the same to anyone who lets it; it is John Masefield's "Bird of Dawning." Let me warn anyone not to get too far into it as he goes to bed—and so——Good-night!

T. B. L.

A Case of Anthrax

By A. E. Jones, Esq.

FRED. G., aged 48 years, was admitted to Samaritan Ward on 19th December, 1933, under the care of Mr. Slesinger. The patient was a well-built man who had worked for 33 years as a brush-maker. His actual task was to comb out and cut imported bristles and hairs, chiefly for the manufacture of paint brushes.

Five days before admission he noticed "an angry red pimple" on his forehead. This gradually increased in size, but it was not until the fifth day that the œdema and discolouration of the surrounding tissues caused him to come up to the hospital.

On Admission

Five days later after administration of 130 c.c. Sclavo's anti-Anthrax Serum

On examination, he had a lesion on the forehead consisting of a central, black, umbilicated eschar about one inch in diameter, surrounded by a double row of vesicles containing blood-stained serum. Round the periphery was a dusky red indurated area several inches in diameter. The right submaxillary lymph glands were much enlarged and tender, while there was reactionary œdema involving the whole of the face. He was complaining of severe headaches and also of shivering attacks, whilst the pustule gave rise to severe itching. The temperature was 99.8 and the pulse 100-110. On puncture of the vesicles anthrax bacilli could be recovered, but the blood culture was negative.

It was decided to treat the case with serum alone, and 70 c.c. of Sclavo's anti-anthrax serum were injected subcutaneously into the abdominal wall. Twelve hours later the temperature had risen to 102° and the pulse was 120-130. Serum was again given on the following two days, in doses of 30 c.c. subcutaneously. He received thus 130 c.c. of serum in 60 hours.

There was an initial increase in the severity of the lesion, and on the night after admission he was delirious and his features were totally obscured by the œdema. From this time onwards the condition improved rapidly, and by the fourth day he was apyrexial and symptomless, all that remained being a dry scab on the forehead.

This case is of interest in that it shows what must be granted to be a very dramatic effect of serum therapy in cutaneous anthrax. The serum was first given on the fifth day of the disease in dosage rather larger than that usually advocated, and by the tenth day the condition had almost entirely subsided.

No local excision was practised, as there is little or no evidence that this favours the prognosis; whilst in this situation healing would have been very difficult and would undoubtedly have necessitated a subsequent skin graft.

N.A.B. was withheld purposely, although its use has been advocated on more than one occasion in these pages. It was thought that the beneficial result of the first injection of serum would be masked if any other more empirical drug were employed.

I am indebted to Mr. Slesinger for permission to report this case.

The Value of Radiography in Dental Practice

A Paper read before the Dental Society, Guy's Hospital, on Monday, December 11th, 1933, by Edgar S. Venning, Esq.

MR. PRESIDENT and GENTLEMEN,—The subject of this paper may at first sight seem one which needs no such dissertation as this to stress its importance, since we at Guy's, with ample opportunities of making use of X-rays, and varied clinical material at our disposal, are most of us quite familiar with the diverse uses to which this recent branch of dental science may be put. Nevertheless, the very diversity of its uses and the fact that it is coming increasingly into general use in the ordinary dental practice make it imperative that we should know when to employ it and how to apply the results obtained.

Radiology is a subject the teaching of which here at Guy's does not receive as much attention as it might. The practical side of the subject especially seems to me to be neglected, and most of us leave the hospital to start in practice with a very inadequate knowledge of the correct technique of X-ray photography and development, and of the numerous pitfalls which the beginner at radiography may frequently encounter.

If radiography is to be of any real value to us we must become experts in both its practical and its theoretical aspects, for the essential factors for a correct diagnosis are, firstly, a clear radiograph, and, secondly, the ability to interpret it.

This paper is not intended to encroach on Mr. Worth's most valuable course of lectures on radiology, but rather to act as an introduction for some and as a revision for others of this most important and fascinating subject. It is intended as a review of conditions commonly met with in the ordinary dental practice, and the slides which I hope to show are taken from such a practice in the provinces. Thus conditions rarely met with in a general practice, such as odontomes, fractures of the jaws, and the like are omitted. Nor does this paper deal with the practical side of radiography, as that was fully dealt with in Miss Marsh's paper at the end of last session.

The dental radiograph is the greatest aid to diagnosis at the disposal of the dental surgeon, and in a multitude of ways helps him to carry out his treatment in a much more thorough manner than was possible before its introduction. As a means of revealing sepsis at the root of an infected tooth, the onset of pyorrhœa or interstitial caries

which a clinical examination has failed to disclose, the X-ray is indispensable.

It has been proved time and time again that it always pays in the long run to make use of X-ray diagnosis where there is any doubt whatever as to the cause of a certain condition or as to the difficulty of any dental operation such as the removal of teeth or roots. The time and expense incurred by an examination of this kind is negligible when compared with its value, and in the great majority of cases patients are willing to submit to it and to pay the necessary fee.

Some dental surgeons stipulate that no teeth or roots should be extracted without first being radiographed, and although this seems, and often proves to be, unnecessary in many cases, the cases in which unexpected difficulties are revealed may make the adoption of this practice well worth while. In a busy practice a whole morning's work may be put out of gear and many impatient patients kept fuming in the waiting-room through neglect to take this simple precaution. What appeared to be a simple extraction has proved to be a difficult operation. The dental surgeon is unprepared. Possibly he has made matters worse by his fruitless attempt. A longer anæsthetic may have to be given, and he may eventually decide that it is a case requiring a nursing home and general anæsthetic, a fact he would have discovered in the first place if the case had been X-rayed. Thus his prestige, and incidentally his fees, would have been increased instead of diminished and much needless worry avoided.

The diagnosis and interpretation of an X-ray film is a matter calling for care as well as experience. All too frequently the finer indications in the picture are missed completely and the condition of the teeth and bone judged entirely on the presence or absence of shadows at the apices or gross alveolar absorption. Films should be examined with the aid of a magnifying glass in a moderately bright diffused light, which, to get the clearest picture, should be the only light present in the room. The periodontal membrane, lamina dura, cancellous bone, pulp chamber and enamel should each in turn be carefully examined before any conclusion is reached.

In order to diagnose pathological conditions a familiar knowledge of the normal anatomical appearance is essential. In addition, it is important to be able to recognise normal appearances when they simulate pathological conditions—so-called artefacts—which may be due to chance or may be caused by incorrect angulation of the X-ray tube. Most of you are, no doubt, familiar with the normal X-ray appearances, but I should like to remind you of them in order to emphasise the contrast with the pathological appearances.

Substances are penetrated by X-rays in direct proportion to their density and thickness, and therefore tissue which is uncalcified, or in which the percentage of lime salts is low, will produce a darker shadow than a highly calcified tissue of the same thickness. Thus dentine and cementum are more or less equally calcified, and therefore are indistinguishable in the X-ray.

The cancellous bone of the jaws appears as an irregular network of intersecting white lines, the trabeculæ, meeting one another at sharp angles and enclosing dark bone spaces. The pattern formed by these trabeculæ depends upon the strains and stresses they are called upon to bear, the spaces being smaller and more numerous in the maxilla than in the mandible.

The periodontal membrane is represented by a thin, unbroken black line of uniform thickness throughout, and the lamina dura surrounding it by a narrow white line continued into the bifurcations of the roots and complete throughout its extent. In the incisor region the lamina dura forms a pointed spicule of bone between the teeth, whilst between the premolars and molars an interdental table of compact bone exists, and meets the lamina dura at right angles.

The antrum appears as a dark shadow above the roots of the premolar and molar teeth, and its floor is seen as a well-defined thin white line, which is uneven and irregular. It may be divided partially or completely by bony partitions, and it may dip down between the roots of the teeth, in some cases almost to the margin of the alveolus. It is often impossible to judge the proximity of the roots of the teeth to the antrum, as this depends on the angle at which the film was taken. The premolar and molar roots sometimes appear to be perforating the antrum floor, but on closer examination the existence of the lamina dura around the roots proves that they are superimposed on it. In other cases the roots of these teeth actually push up the floor of the antrum.

The malar or zygomatic bone produces a dense white crescentic shadow which often obscures the roots of the molar teeth. It appears higher in some cases than in others, and, if vague, may be mistaken for an area of sclerosis. In the mandibular molar region an appearance of sclerosis may also be given by the external oblique ridge, or by the mylohyoid ridge, although the lines of their termination are as a rule more definite.

The mental foramen, which occupies a fairly constant position between the apices of the lower premolar teeth, appears as a dark shadow of varying density which, if projected on to the apex

of a suspected premolar, may resemble an area of rarefaction. It may be diagnosed with certainty by tracing the inferior dental canal backwards from it or by following the intact lamina dura round the apex of the tooth. If the shadow were a rarefied area, this layer of compact bone would be perforated.

The inferior dental canal appears as a faintly dark broad line, and occasionally the compact bone surrounding it is well marked.

The anterior palatine foramen is sometimes confused with an area of bone destruction at the apex of one of the central incisors. This only occurs when the film is taken from a high angle, and the teeth will, therefore, be foreshortened.

In the region of the maxillary tuberosity, the tip of the coronoid process may, if the mouth is wide open when the film is taken, be superimposed on the alveolus and resemble a root. The absence of periodontal membrane will, however, serve to distinguish it.

When examining the roots of upper molar teeth, the palatal rootgenerally appears lengthened and the buccal roots correspondingly foreshortened. This fact must be taken into account when judging the lengths of roots for root canal fillings. The error is due to the fact that the X-ray photograph is taken at an angle above the horizontal.

With all these so-called artefacts, if any doubt exists it may be dispelled by taking films at various angles. If the relative positions of the structures are different when viewed from different angles, the condition is normal, but if not, the appearance may be regarded as pathological.

If we pass on to consider these pathological conditions, we find that the skill in their interpretation lies in the diagnosis of the earliest stages of these conditions. A dark shadow at the apex of a tooth is obvious to anyone, but recognition of the finer details of abnormal conditions is only acquired by experience. It should be realised at the outset that radiographic changes in the teeth and their surrounding tissues are only produced as a result of chronic infection. For instance, in the case of an acute alveolar abscess no changes are apparent on a radiograph for about ten days or more when a very slight area of rarefaction is visible. This is due to the fact that a considerable time elapses before the bony tissues become decalcified.

Let us first consider the appearance of various periapical conditions. The vast majority of pathological conditions at the apex of a tooth are the direct result of pulp irritation or disease. If the condition has its origin within the pulp, the first structure to show a deviation from the normal is the periodontal membrane. Spread of infection through the apical foramen produces a thickening of the membrane in the vicinity of the apex, and the lamina dura may be correspondingly thin. If the pathological condition continues to progress, hypertrophy of the periodontal membrane exerts pressure on the lamina dura, causing it to break down at the point of irritation. With this protective barrier broken down the infection spreads in the periapical tissues, with the formation of a chronic abscess or osteitis of the periapical bone, which may manifest itself either as a rarefying or a sclerosing osteitis.

The rarefying osteitis is the more common. It may be diffuse or localised. In the diffuse kind there is a dark area surrounding the apex, which gradually merges into healthy bone, there being no line of demarcation owing to the resistance of the tissues to infection being poor. The infection may spread to involve adjacent teeth.

The localised rarefying osteitis is surrounded by a definite margin of demarcation and often possesses a cortex of compact bone, formed as a reaction to the infection, the resistance being good. In both these cases the lamina dura is, of course, destroyed around the apex. It should be remembered, however, that the appearance of an apical area depends on the background upon which it is superimposed, and with which it is compared. It appears rarefied compared with surrounding bone, but if the apex is superimposed upon the antrum it appears as a slightly darker area, which may or may not be surrounded by a thin white layer of bone in the form of a halo.

There is another form of rarefying osteitis in which there is no definite destruction of bone. It appears as a very slightly darkened area due to the thinning of the bony trabeculæ. The lamina dura is broken in one place, this affording almost the only certain clue to the condition, which is therefore a very difficult one to diagnose.

Sclerosing osteitis appears as a white structureless area in which the bone spaces have been filled up. It is the result of chronic infection of low virulence, and is often found filling the socket of an extracted tooth. In these cases it may be mistaken for a piece of root, which, however, can be distinguished by the presence of its periodontal membrane.

In many cases, however, the cause of the pathological condition does not originate from the pulp. For example, the condition of chronic local periodontitis may be caused by slight but persistent injury to the periodontal membrane, such as a traumatic bite on a filling or crown which is left too high. If the injury is of slight intensity,

outgrowth of the cementum of the root or, cementosis, results. As many of us have learned to our cost, this condition gives rise to considerable difficulty in the extraction of the affected teeth.

When the intensity of the injury is greater, rarefying periodontitis or absorption of the root is the result. This may pass into the stage of productive periodontitis in which some of the absorbed tissue is replaced by cementum, and the bone regenerates to fill the space.

Granuloma and chronic abscess are also results of chronic local periodontitis, but it is almost impossible to distinguish these from a localised rarefying osteitis when seen in a radiograph. The important point to remember, however, is that if the shadow of the surrounding bone is dull and hazy, the infection is comparatively active, whilst if it is clear and the infection is encapsulated by a wall of condensed bone, indicating a reaction on the part of the tissues, the area is practically harmless, and often sterile.

By proliferation of the epithelial remnants found in a granuloma a dental cyst is formed. This epithelial proliferation is due to toxic irritation from septic roots. It is seen as a dark structureless area and is surrounded by a thin regular cortex of bone. For this reason it is often difficult to diagnose a cyst from the normal antrum, and the diagnosis should not rest on radiographic evidence alone. A cyst in the region of the antrum will often encroach on the sinus and push up its floor, so that the size of the antrum is considerably reduced. Very rarely will it perforate the antrum.

In the diagnosis of pyorrhœa the radiograph forms a most valuable aid for determining the extent of bone destruction. Here, again, the diagnosis of the gross lesion is obvious, but it is by recognising the disease in its earliest stages that most can be done to prevent its extension. The first change noticeable is the thickening of the periodontal membrane around the cervical portion of the tooth. This is followed by absorption of the layer of compact bone on the alveolar surface between the teeth, and rounding off of the angles which it normally makes with the lamina dura.

Similarly, in the lower incisor region the interdental spicules of bone disappear. The bone trabeculæ become thinned and the cancellous bone is slowly decalcified. Thus an irregular and somewhat rarefied surface of interdental bone is produced, which appears blurred in the radiograph. If unchecked, the disease spreads and the bone surrounding the teeth is gradually destroyed until the roots are denuded and the teeth loosened. This destruction of bone may take place evenly along the alveolar surface or it may be confined to the immediate proximity of the roots, forming deep pockets around the teeth. In some cases two distinct alveolar margin levels are seen. This is caused by greater absorption of bone on the buccal side of the tooth than on the lingual, or *vice versa*. The condition is commonly seen in association with a traumatic bite on the teeth involved.

It must not be thought that the recession of the alveolar margin in all cases constitutes a pathological condition. In many cases the alveolar bone in the adult jaws is seen to have receded and the interdental table of compact bone, still meeting the lamina dura at right angles, is seen to have receded with it. In these cases the absorption is normal and physiological, being due to age.

After infected or pyorrhœic teeth have been extracted, the infected bone which remains undergoes resolution and becomes normal and healthy if the recuperative powers of the patient are good. If, however, the resistance of the patient is poor, the infection remains unresolved, and the condition, known as residual sepsis, has a characteristic radiographic appearance. The bone is rarefied and the alveolar surface very irregular. It presents a typical fluffy appearance, and small spicules of bone project from the ridge. The condition is most probably seen in the lower incisor region owing to lack of drainage.

In other cases the removal of infected teeth will result in persistent sockets, which are almost always infected. The lamina dura fails to break up and the socket is filled with granulation tissue which does not form new bone. The radiographic appearance of the socket is similar to one from which a tooth has recently been removed.

Necrosis presents a typical appearance on an X-ray film, and often occurs as the result of an infected tooth socket. Necrosed tissue is not distinguishable from normal bone unless a sequestrum is in process of separating from the healthy bone. When this occurs an irregular dark shadow of bone destruction surrounds the necrotic portions, which, if of long standing, appear denser than the normal bone.

The appearance of caries in a radiograph is well known, and in most cases fairly obvious. Care is often required, however, to detect the presence of caries underneath the cervical edge of a filling. The appearance is of a dark rarefied area in the dentine. In the incisor region this is sometimes confused with a synthetic porcelain filling which may present a similar appearance. The radiograph is most useful in discovering the presence of interstitial caries, and in most mouths which clinically have been passed as free from caries the existence of two or three carious cavities may be

revealed by an X-ray. Thus in practice it is good policy, as well as good business, to X-ray the teeth of every patient before dismissing them as free from caries. In doing so, upper and lower teeth in occlusion may be photographed on one film, known as a bitewing film, which is just large enough to take the crowns of both, this being all that is required for examination.

On the subject of X-rays with regard to difficult extractions I do not intend to say very much, as there have been two clinical lectures recently dealing with the subject. There are, however, one or two points concerning the extraction of misplaced teeth which I should like to illustrate.

The mandibular 3rd molar is, of course, one of the most difficult teeth to extract, as it is so frequently impacted against the 2nd molar or against the ramus of the mandible. In a radiograph the chief points to notice are the amount of bone covering the crown, and whether the tooth is standing buccally in relation to the 2nd molar, lingually, or is directly behind it. The external oblique ridge often gives the appearance of bone covering the crown, and this must be differentiated by observing the extent of the dark area representing the crypt of the tooth. If the crown is covered with bone to any extent, the dark area of the crypt will be seen surrounding it to that extent. The external oblique line may also, in many cases, be traced behind the tooth.

As regards the lateral displacement of the impacted tooth, this may be determined by the amount of superimposition of the 3rd molar on the 2nd, and by the amount of occlusal surface visible. It is important, however, to note the contact point between the 1st and 2nd molars. If there is any overlap of the enamel surfaces in this situation the angle of projection of the picture is incorrect, and the superimposed appearance of the 3rd molar misleading.

Another instance of difficult extractions in which X-ray guidance is valuable is that of the buried canine. It is often impossible to tell for certain from films taken from the buccal aspect whether the misplaced tooth lies internal or external to the other teeth, and this can only be decided by taking a horizontal or bite film, directing the X-rays upwards from below in the case of mandibular teeth or downwards from above when dealing with maxillary teeth, the film being held between the teeth.

Other cases of difficult extractions, diagnosed as such through the medium of the X-ray, are those teeth whose roots are divergent, curved or cementosed, or where the surrounding bone is sclerosed or very dense. The latter condition is associated with persons of strong physique and with cases of rheumatoid arthritis.

In addition to those I have already discussed there are a number of ways in which X-rays are of valuable service, which I need only mention here.

In the realm of orthodontics it is of value in determining the presence or position of unerupted teeth or of supernumerary teeth.

Fracture of the root is well shown on a radiograph. In rare cases a fracture has been known to unite, union being effected by means of the periodontal membrane and the pulp.

The X-ray also affords an effective means of inspecting root canals and root fillings. It should be remembered, however, that where a root canal appears to be incompletely filled, this may not always be the case, for although the G.P. point may not completely fill the canal, the paste used for sealing it in may have been forced as far as the apex, and, being radiolucent, does not show.

There are many other pathological conditions which a radiograph will reveal, such as pulp-stones, odontomes, tumours, and fractures of the jaws, osteomyelitis and the like, but as they are rarely met with in dental practice, they need not be discussed here.

In conclusion, I should like to stress the necessity of combining radiographic evidence with adequate clinical examination. Cases should rarely be judged on X-ray appearance alone. In certain quarters there is a tendency to rely too much upon the evidence of the X-ray photograph, and this is a danger which must be guarded against.

If I have succeeded in convincing you that this subject is indeed an important branch of our work, and one which will amply repay any time spent in studying it, this paper will have been worth while.

Correspondence

Hospital Appointments and the G.P.

To the Editor of the GAZETTE

SIR,—Reading Dr. Wood's paper on "The Relative Value of Hospital Appointments to the G.P." impels me to write to you on the matter. I qualified in January, 1881—quite a good time ago. In my day the Skin Department was much undervalued by the students, and very few attended. It had a fascination for me, and I never regretted the time spent looking at "Skins."

There was no Children's Department. As an Extern I attended over 60 cases in the month. I received no instruction and no help. I left Guy's

without ever having seen forceps applied and without having given an anæsthetic.

Junior Dresser was Assistant Surgeon's Dresser in my time, and practically all my time as such, under Clement Lucas, was devoted to what your correspondent calls "irrigating vast septic wounds." We did not irrigate, we syringed. All wounds were septic, and the pus, supposed to be "laudable," was horrid. There were no orthopædics. The Senior Dresser or, as he was then called, simply Dresser or Full Dresser, was a little god. "Eyes" were all right if one could only get near enough. Genito-urinary, Nerves, or V.D. Departments had not then arisen. Nothing is said about "Post-Mortem Clerk," a really valuable appointment.

Another appointment I held, not mentioned, was Assistant to the Demonstrator of Physiology —cutting and mounting sections and so on.

One gets precious little surgery in G.P. work. Colles' fractures, dislocations of the shoulder and jaw I remember best, opening whitlows and, years ago, carbuncles. It may be that "tact" is of even more importance to a G.P. than technical knowledge, especially on the surgical side. The faculty of getting on with children is also an asset.

Yours, etc.,

T. REUELL ATKINSON.

"Tregenna,"
Warwick Road,
Beaconsfield.

The "Niggers"—An Appreciation

To the Editor of the GAZETTE

SIR,—Having heard certain unkind criticism regarding the performance of the "Niggers" this year, we should like to offer our hearty congratulations and thanks for a very enjoyable entertainment, which was much appreciated both by the patients and the majority of the audience.

The Residents are to be congratulated on the splendid result of many evenings' hard work and creditable sobriety.

Please may we have them again next year.

Yours, etc.,

X. Y. Z.

Guy's Hospital,
S.E.1.

The William Gray Testimonial Fund

To the Editor of the GAZETTE

SIR,—May I convey through the medium of the *Gazette* my sincere gratitude and appreciation for the response that has been made on my behalf *re* my testimonial? I should also like to thank everybody for the letters I have received; if I live as long as some of them wish me I shall live to a ripe old age. I should also like to thank Dr. J. J. Conybeare for all the trouble he has taken on my behalf, for I know it must have taken up a great deal of his valuable time; also to you, Sir, as Editor of the *Gazette*.

Yours, etc.,

WILLIAM GRAY
(*Late Porter at the College*).

26, Ena Road,
Norbury, S.W.16.

Reviews

Histology. By RAMON Y CAJAL. Published by Messrs. Baillière, Tindall & Cox. 738 pages, 535 figures. *Price* 40*s*.

IT is indeed a matter for congratulation that at last the brilliant work of the Spanish School of Histology, fathered by Santiago Ramon y Cajal, has become available not only in English as a direct translation, but in text-book form suitable for the student.

The tragedy of this now classical advance in the history of medical research is that for nearly 30 years Cajal's work has been put before the scientific public in, shall we say, an "unscientific" and, to a large extent, unread language, and its value as an advance in Histology and Pathology therefore largely unrecognised. Enough has come to us from the German and the French to make it clear that in Cajal Medicine must recognise one of the masters of the art; in his infinite patience, his passion for logical interpretation, his delicate orderliness of mind, his application to Medicine for Medicine's sake alone, and his determination, even in the face of the indignity of having to use a foreign language, to present his findings for criticism, we must see the force of a great character. He reached a mature age whilst still at a subordinate school of the University known to us only because it bears the stamp of Cajal. At his own leisure he reaches Valencia, then Madrid, then recognition in Germany, then

through Golgi in Italy, then in France, until at last long-deserved honours begin to become heaped upon him and full recognition of his wonderful service to Medicine is made. His father, against whose determination to make him expert in the shoemaker trade he had rebelled, failed to see him win glory for himself. Spain is a conservative land and Cajal was his own inspiration, striving for what satisfaction he sought in Medicine and not for what Medicine could award him. Like many another great man, he found fame, though giving it scant thought during his years of study.

This book is a literal translation of the Spanish and suffers no loss thereby, for through it here and there run shafts of the vivid teaching locutions which make Cajal's work so alive. Our histological nomenclature and phraseology would benefit not a little by the inclusion of many of the Spanish descriptive terms. The feature which is, to us, most striking, however, is the illustration of the text. This is literally perfect; the delicate clarity of art shown reflects something of Cajal's own illustrations. In half-tone for the most part, these histological pictures enthralled us by their life, their intricate detail, rigid in its exactness, their delicate fineness of artistry, and their demonstrative excellence.

The text is presented in the way characteristic of the French and the Spanish schools, namely, preceded by a thorough foundation in cytology, its history, microscopic anatomy, physiology and philosophy. We have had personal experience of such a training in histology and pathology, and we can testify to its excellence. Its thoroughness is never forgotten nor regretted. Histological topography and pathology follow very naturally. In general, the text is very good; after a short acquaintance the translator's diffidence to use an easy flowing English becomes attractive, and the force of a brilliant teaching begins to make itself apparent. We enjoyed reading this book to the full, and found that the facts were borne upon us in a pleasant and lasting way. The sections on cellular division and evolution, on osseous tissues, and on the nervous system as a whole, particularly the latter, of course, we thought outshone the others, but let it not be thought that by this we mean that the other sections are of indifferent calibre. The detail is full yet not overpowering, and the references are largely confined to the Spanish, a delightful touch of irony which does not escape us. If we can find a fault, it is with the split infinitive in the translator's preface.

We very confidently recommend this volume to the student and to the special worker in Histology, Pathology or allied subjects. We do so because this is the finest text-book of Histology we have yet seen, and equipped with illustrations which are perfect examples of the art. We know that the price is not low, but it is as low as possible considering the excellent production and the presence of no less than 535 illustrations mostly in half-tone; these alone, for their clarity and their perfection of detail, more than justify acquirement of the book. The work is clearly that of a master of the art of exposition. For the special worker let it act as an introduction to Cajal's "Nervous System in Man and the Higher Vertebrates" and "Degeneration and Regeneration in the Nervous System."

C. K. S.

The Practice of Surgery. By RUSSELL HOWARD and ALAN PERRY. 4th Edition. Published by Messrs. Edward Arnold & Co., Ltd. *Price* 30*s.*

MR. HOWARD'S "Practice of Surgery" has attained nearly 20 years' standing, and this should testify to its merits. It is an extremely accurate and complete text-book on standard lines, but by no means easy reading.

In the original preface the author claims that his objects are to introduce the student to surgery, to prepare him for the final and for higher examinations. As an introduction it is frightening, for the Final it is too full, but for the Fellowship candidate it is an admirable book.

Treatment is dealt with dogmatically and is unlikely to be of great help to the practitioner in search of an alternative method, as controversial ideas have been purposely omitted.

Though not much used at Guy's, it should find its way to the shelves of the surgically inclined, as few conditions are unmentioned and it is more up to date than the average text-book. It is pleasing to note that there is no section on diseases of the eye, which usually wastes an eighth of a surgical text-book in an incomplete consideration of the subject.

The book is well printed and bound, and contains eight coloured plates. The weight and nature of the text rules out armchair reading.

A Text-book of Pathology. By R. MUIR. Published by Messrs. Arnold, Ltd. Third Edition. July, 1933. *Price* 34*s.*

WE believe that a good Text-book of Pathology should be equipped with two essential features, namely—

(*a*) Good illustrations, and

(*b*) A logical, assimilable text, recognisant of recent advances;

for Pathology is a live study and nothing if not logical in its interpretations—that is its great charm.

Muir's third edition, recently published, fails as lamentably with its illustrations as did the first and second editions. We can find no possible excuse for the inclusion in " an up-to-date Text-book of Pathology " of figures 14, 116, 155, 240, 319, 362, 372, 373, 385, 485 or 499 among many others, which, to the reviewer not inexperienced in the examination of histological and pathological materials, prove difficult of recognition. It is not merely that these illustrations are not the best possible of the subjects concerned, but that they are impossible to recognise, spoilt by poor photography or " ridged " by blunt sectioning. Section cutting and micro-photography have reached such refinement that this is unpardonable. Such a detraction as this can and should most certainly be remedied in any future edition.

The text, on the contrary, has something rather attractive about it. The sections on Inflammation, on Splenomegaly and on the Brain and Cord are short but full enough, clear and well arranged. That on the Encephalitis problem is particularly good, suffering nothing from its brevity. The arrangement of the Anæmias seems a little haphazard and takes no advantage of the more recent nutritional basis of classification of one section, and several other sections suffer in their detailed presentation by lack of a preliminary discussion of the subject or a tabulated classification which might bring the whole problem into view at one glance. The preamble to the detailed description of tumours is a most unsatisfying edict, ethereal enough to confuse rather than orientate, and is unsupported by any explanatory table. Exactly the same applies to the sections on Aneurysms and Nephritis. The whole subject is tackled at sight without preliminary disarming criticism or a review, introductory to the discussion of detail.

These are, we admit, matters of general arrangement, but we believe that a much less easily assimilable text results from such an omission.

When, however, the text is examined closely, many transgressions of accepted fact seem to have escaped revision. The description of " myeloid sarcoma " on page 231, the contradiction in terms concerning heredity and cancer on page 274, the origin of meningiomata on page 96, the question of the presence of cartilage in the salivary tumours on page 212, the confusion between heterotopias and rests on page 272, the histology of hæmorrhagic pancreatitis on page 631, the confusion of the Noguchi medium globoid bodies and the virus of acute anterior poliomyelitis on page 758, together with several other matters more open to opinion.

We cannot agree with the placing of the angio-endotheliomata among the sarcomata or the salivary tumours among the mixed tumours, of the discussion of nephrosis under " Degenerative Nephritis " (though we admit that the question is by no means irrevocably settled).

When we have read through 20 pages on Immunity and Fever we are disappointed to find only short paragraphs on the pathogenesis of carcinoma of the bronchus, or influenzal lung lesions, on the question of primary and secondary tuberculosis and on uræmia. No discussion on the functional disturbances in the kidney in nephritis is given. These are big gaps in a volume which in other respects is full in its information.

There seems much ground for improvement in this Text-book. It has the comparative merit of a low price, which could not be maintained were the illustrations revised, but in our opinion the volume would well merit recommendation in such an event.

C. K. S.

Legal Aspects of Mental Illness—Procedure. By WILLIAM H. GATTIE, Barrister-at-Law. Published by Messrs. Shaw & Sons, Ltd. Third Edition. *Price* 7*s.* 6*d.*

A WORK by a member of the legal profession dealing with the practical aspect of disposal of the mentally ill.

The various types of patient are considered in chapters as under : voluntary, temporary, urgent, etc. Extracts from the Lunacy Laws with comments and the appropriate forms for reception are included in the suitable places.

A list of licensed houses and a complete index makes the book an excellent standby for the busy practitioner who may suddenly be called upon to certify a patient. To the psychiatrist it should prove invaluable.

Practical Nursing. By GORDON PUGH. Published by Messrs. Wm. Blackwood & Sons, Ltd. *Price* 12*s.* 6*d.*

THIS book should be useful both as a text-book for nurses in training and as a book of reference for trained nurses. It is divided into two sections, one of which covers the Syllabus of the Preliminary State Course and the other that of the Final.

It is simply and concisely written from a practical standpoint, and contains no irrelevant matter. The chapter on drugs is especially clear, and is tabulated to make revision easy. Dietetics and

the constituents of common food-stuffs are given a prominent place and special diets are explained and briefly outlined.

Although a few of the illustrations are out of date, there are many excellent ones, and it is a book to be thoroughly recommended.

Bruce and Dilling's Materia Medica and Therapeutics. By Prof. WALTER J. DILLING. Published by Messrs. Cassell & Co. 14th Edition. *Price* 10*s.* 6*d.*

THIS book is on similar lines to Hale-White's *Materia Medica*, which is more familiar to Guy's men. Like Hale-White, the first edition appeared at the end of the last century, and revision has devolved upon our own generation.

The drugs are grouped into inorganic and organic substances and subdivided according to the pharmacological effect. There is the usual section on weights and measures and pharmaceutical detail and a third part headed "General Therapeutics" deals with the treatment of disorders of the various systems. This last part should serve as an excellent introduction to treatment for the medical ward clerk.

The text has been revised and reset since the publication of the new Pharmacopœia, and accounts are given of the most important compounds which have recently been made official. Among these are included insulin and the various endocrine extracts. The controversial subject of liver in Addisonian anæmia is dealt with summarily, but this is the fault of the size of the book rather than of the author.

Other compounds which find a place are the organic arsenicals and mercurial diuretics. It seems a pity that the last-named are not more fully discussed, as they are now remedies of tried value. A few compounds in common use, such as lipiodol and uroselectan, are also included, and here again we feel a more detailed account would be welcome.

The section on vaccines and sera is incomplete, and leaves one with the conviction that this branch of therapeutics is better confined to a text-book of bacteriology.

The book is bound in cloth and well printed, and should be invaluable to the student who is preparing for the qualifying examination in pharmacology.

Sport

Rugby

Guy's v. United Services (Portsmouth)

AT Honor Oak Park on Wednesday, December 20th, Guy's played splendid football, and were successful by 4 goals and 2 tries (26 points) to nil.

Half an hour before the game was due to commence a thick fog enveloped the ground, and it was extremely doubtful whether any play would be possible. However, the light improved, but play was restricted to 30 minutes each way; even then waves of blackness nearly blotted out the players from time to time, but not sufficient to stop the game.

With the exception that E. C. Sharp took the place of Lindsey at full-back, Guy's were at full strength, but the Services had three of their regular fifteen away assisting Hampshire.

Guy's, who had not had a match for two weeks, started off in convincing style and, within 15 minutes, had established a lead of 13 points.

Johnson scored the first try after five minutes' play, when Giesen made a fine opening following some smart passing between the whole of the three-quarter line. A little later Giesen created a similar opening, and Johnson cleverly eluded the Services' full-back, to score near the posts, for Hogbin to convert on each occasion.

The visitors should have scored soon after this as a bout of weak passing let in their forwards, but they lost the ball and Guy's touched down.

It was not long before the Hospital increased their lead, and this was not surprising as they were, with the exception of full-back, vastly superior in every department. Alexander was largely responsible for the next score, when he took the ball from the feet of the opposing forwards and was through the defence in a flash and, when faced by Cowgill, the full-back, he gave a perfect pass to Giesen, who had to go all out to reach the line for an unconverted try.

After these early reverses the Services settled down a little and made one or two determined attacks, which were driven back. Alexander made another great effort when he cut through the centre and sent Johnson away on the wing, but Cowgill brought off a superb tackle and prevented a certain score.

Morgan then made a lot of ground before finding touch near the corner, and from the line-out Giesen cut through beautifully to score between the posts, and Hogbin added the goal points.

After the interval the visitors tightened up their defence and their backs lay closer up to the scrummage and endeavoured to smother up the Hospital attacks before they were allowed to develop. However, Alexander eventually found an opening, and, racing across to the right wing passed inside to Wright, who flashed in behind the posts for Hogbin to convert. A minute or two later Wright nearly scored again when, in a fine run along the wing, he baffled the whole defence and was just rounding the full-back when Duff dashed across and collared him in the nick of time.

The last score came when Hogbin, who had played magnificently throughout, forced his way over from a line-out in the Services' 25, but he failed to convert his own try.

Near the end the visitors were awarded a penalty but Cowgill had bad luck with his kick, which hit the upright.

The Hospital thoroughly deserved their success, as they played brilliant football from start to finish. The pack excelled particularly in the set scrums, and as the game developed they did extremely well in the loose. The backs were at the top of their form; in fact, the whole division moved like a fast-moving machine, the passing being of the highest standard, accurate and rapid.

Team.—E. C. Sharp; A. G. Johnson, J. E. Giesen (Capt.), P. C. Alexander, C. G. Wright; I. K. Thomas, V. H. Bowles; M. R. Kark, A. G. Heberlein, C. S. Darke, D. M. Leeming, R. J. Drummond, R. A. P. Hogbin, T. Morgan, A. R. Clarke.

Guy's v. Birkenhead Park

FOR their home fixture with Birkenhead Park on Saturday, December 23rd, Guy's were defeated after a very exciting game by 2 placed goals, 2 penalty goals, 1 dropped goal and 2 tries (26 points) to a placed goal, 2 dropped goals and 2 tries (19 points).

Owing to so many members of the side being away on holiday and with Alexander playing in the Trial at Twickenham and Wright in attendance as reserve, the Hospital found it very difficult to field a representative side, and no fewer than six of the junior fifteen were called upon to fill the gaps. However, the forwards put up a great fight, and it was not until the closing minutes that victory for the visitors was assured.

Birkenhead Park were the first to score after they had attacked on several occasions; in fact, they should have scored earlier, when Knowles made a good run before passing to Lane—a try appeared certain, but the final pass went astray. However, the Park pressed strongly in front of the posts and from a scrum Steel dodged round and scored a try, which Green converted.

Guy's retaliated immediately, when Bowles sent out a good pass to Thomas, who ran through the defence before passing to Hogbin, whose pass to Kark enabled the latter to cross in the corner. Hogbin had bad luck with the kick, which struck an upright.

Birkenhead went further ahead when Lane kicked a penalty goal, and a little later Gibson dropped a good goal.

Guy's then took up the running and, following good work by the forwards, play was transferred to the visitors' 25. From a scrum Sharp got the ball out to Thomas, who ran and dodged to within a few feet of the line, when Hogbin hurled himself over for an unconverted try, and at half-time the Park led by 12 points to six.

On resuming, Guy's pressed heavily, and some clever dribbles took them close to the visitors' line. However, over-anxiousness cost them a penalty, and they were driven back to their own 25, when Lane scored another penalty goal as the result of the Hospital getting offside.

The game had been re-started but a few moments when Guy's were forced back to their 25; here Steel snapped up a chance and threw a long pass to Knowles, who, after giving the "dummy," scored a fine try, which Lane failed to convert.

From the kick-off Guy's broke away, and eventually the ball came back to Giesen, who dropped a magnificent goal a few yards from half-way. After Hogbin had missed a difficult penalty kick, Thomas raised the hopes of Guy's by dropping another good goal.

Play was now very fast, and both sides were playing attractive and open football and the excitement was intense. Eventually the visitors increased their lead when Steel started another smart round of passing and Charles, running at a great pace, grounded the ball behind the posts for Lane to convert.

The Hospital had another turn when Giesen cleverly broke through the centre and passed to de Gregory, who ran in behind the posts for Hogbin to add the goal points.

In the last few moments Charles obtained possession near mid-field and, shaking off all attempts to tackle him, he scored another unconverted try.

Team.—C. E. M. de Gruchy; R. M. de Gregory, J. E. C. Peacock, J. E. Giesen, A. G. Johnson; I. K. Thomas, E. C. Sharp; M. R. Kark, H. H. Crabb, C. S. Darke, I. G. Robin, R. J. Drummond, T. Morgan, R. A. P. Hogbin, R. O. Yerbury.

Hospital Information, etc.

Retirement of Mrs. Archer from the Dental Department

IT will be of interest to Guy's Dental men to know that Mrs. Archer, who has worked for so long in the Dental Department, has just retired.

Mrs. Archer commenced her duties in the Department on February 1st, 1905, and retired on November 11th last, a period of nearly 29 years, marred only by less than 14 days' absence on account of illness until just before her actual retirement, when she was admitted to a medical ward for an illness from which she is now happily recovering.

It is felt that many Guy's Dental men would like to contribute to a fund which has been opened as a slight recognition of Mrs. Archer's devoted services, and all those desiring to do so are requested to send a subscription, not exceeding half-a-guinea, to F. Bocquet Bull, Esq., Sub-Dean of the Dental School, Guy's Hospital, London Bridge, S.E.1. A list of donors will be published in the *Gazette*.

Pass List

UNIVERSITY OF CAMBRIDGE.

Michaelmas Term, 1933.

THIRD EXAMINATION FOR MEDICAL AND SURGICAL DEGREES.

PART II.

W. H. Lewis.

SECOND EXAMINATION.

PART II.

G. E. Yardley.

THIRD EXAMINATION.

PART I.

T. L. Barbour
D. P. King
M. S. Spink
J. R. Dickinson
C. G. Pantin

UNIVERSITY OF LONDON.
M.S. EXAMINATION.

December, 1933.

BRANCH I.

Surgery.

*W. J. Ferguson
P. V. Reading

* University Medal.

FIRST EXAMINATION FOR MEDICAL DEGREES.

December, 1933.

V. H. Beynon
D. A. G. Brown
H. B. O. Cardew
W. F. Frazer
G. N. L. Godber
W. S. Hacon
T. R. Jones
H. E. Moody
J. R. E. Richardson
J. Y. D. Wakeham
G. B. Collyer
R. H. Bhanji
J. Burton
H. Foster
R. Gilbert-Harris
S. Green
M. A. Imray
I. J. Mathias
H. Rees
J. H. Smart
W. R. D. Wiggins

SOCIETY OF APOTHECARIES OF LONDON.
FINAL EXAMINATION.

December, 1933.

Surgery.

B. C. M. Palmer.

Medicine.

*J. P. Fitzgerald.

Forensic Medicine.

S. E. Roberts
H. D. Robinson

Midwifery.

B. C. M. Palmer.

* Has now completed the examination.

Papers by Guy's Men

A. Simpson-Smith. Treatment of compound fractures of the tibia. *Brit. Med. Jour.*, 1933, ii, 1019.

E. R. Boland. Cervical rib due to dropping shoulder (illustrated). *Brit. Med. Jour.*, 1933, ii, 1068.

G. F. Gibberd. Infection of the urinary tract in pregnancy and the puerperium. *Clin. Jour.*, 1933, lxii, 491.

W. L. Attwater and I. Preiskel. Excision of a traumatic stricture. *Lancet*, 1933, ii, 1424.

G. B. Dowling. (1) Prurigo nodularis; (2) Rare type of xanthoma; (3) Benign lymphogranuloma—miliary lipoid. *Proc. Roy. Soc. Med.*, 1933, xxvii, 140-141; Sec. Dermat., 4-5.

O. Gayer Morgan. Ruptured globe, with cataract. *Proc. Roy. Soc. Med.*, 1933, xxvii, 151; Sec. Ophthal., 5.

Change of Address

Dr. Philip Dennis Scott, 80, Clifton Hill, St. John's Wood, N.W.8. *Maida Vale* 2784.

C. Lyth Hudson, 8, St. Mary's Street, Shrewsbury.

Births

CALDER.—On November 24th, 1933, at Pietermaritzburg, Natal, to Marjorie (née Taylor), wife of David M. Calder, L.D.S., R.C.S. (Eng)—a son.

WITTS.—On December 29th, 1933, to Nancy (née Salzman), wife of Dr. L. J. Witts—a daughter.

EDS. { C. G. B.
G. L. B. T.

GUY'S HOSPITAL GAZETTE

A Journal of Medicine, Surgery, Dentistry and Hospital News.

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PASSIM

THIS year the Founder's Day Service on January 6th was of special interest for two reasons—the sermon by the Rt. Rev. H. L. Paget, D.D., formerly Bishop of Chester, and the formal opening of a new Inner Crypt.

By bricking up the space between six of the central piers of the old Crypt an Inner Crypt was formed, where the body of the Founder and other persons could be laid. The opportunity for making this alteration arose in 1932, when it was found that some of the pillars needed underpinning owing to their subsidence. The pillars and roof of the new Crypt are of the original materials, but the bricks have been cleaned and re-pointed, while the spaces between the pillars have been refilled with bricks of the same date, approximately 1780, obtained from the house in Bloomsbury recently demolished on the site of the new University buildings.

With this uniformity of material and a floor laid with vitreous mosaic, an Inner Crypt of dignity and strength has been made, where the body of the Founder and three other worthies are now laid.

The four coffins which have been placed in the Central Crypt are those of Thomas Guy, the Founder of Guy's Hospital; Mr. Charles Joye, the Treasurer of St. Thomas's Hospital at the time that Guy's Hospital was built and the first Treasurer of Guy's Hospital; Mr. William Hunt, a great benefactor to the Hospital, who died on the 23rd September, 1829; and Sir Astley Paston Cooper, the famous surgeon to Guy's Hospital, who died in 1841.

The cost of construction of this Inner Crypt has been generously defrayed by Sir Percy Shepherd, a Governor of the Hospital, and his co-trustees in memory of the late William Shepherd.

AT the present time there is strife in America over the new Food and Drugs Bill, which threatens the whole fibre of the patent medicine industry. The Bill is drawn up with clauses which snatch the mask from the extravagant and misleading claims with which we are all familiar. It sets forth a list of diseases for which any advertisement "directly, or by ambiguity or inference," claiming cure, is thereby to be known as false. The ingredients of each remedy are to be specified on the boxes, and severe penalties will be imposed for misrepresentation.

Backing up the Bill is a "Chamber of Horrors" in the Food and Drug Administration Buildings, which gives a practical demonstration of the deceits and dangers of the quack remedy. The various popular cures are on show, together with advertisements, prices and analyses, and it is interesting to compare the different labels used for the same product in different States, according to the laxity of the law. Among the exhibits is a series of photographs of testimonials used to advertise a diabetic "cure," and opposite each testimonial is the death certificate of the sender dated, on the average, a year after the testimonial.

Admittedly such propaganda might not appeal to the British nation, but why have we waited so long for a lead in tackling this menace? The patent medicine industry is, perhaps, the meanest of any. The cheaper and cruder of the official drugs are sold under false colours at many times their cost price. The whole business is supported by testimonials which are trumped up by the mentally unstable and invested with an atmosphere of magic, which is quite unjustified by results. The working-class sufferer, hoping to save a few pence on the doctor's fee, relieves his symptoms for a time with impure and expensive analgesics. What happens? The money is wasted, and the

doctor is consulted at a time when the disease has progressed beyond the reach of any therapeutic measure.

So long as we countenance this state of affairs, so will the poor man be duped and the patent medicine vendors wax fat on tragedy. We have had an exposition of the various nostra in the British Medical Association's "Secret Remedies." But the best-advertised remedies of to-day do not appear, for the ephemeral nature of quack drugs would necessitate a monthly journal to keep pace with their publicity campaigns. It is time we had a further campaign, and our cousins in the States have set the example. Let us, too, in this country, strip the "cure" and show the world the filth of her nakedness. We can set up the quack drug and its claims in the pillory, and very shame at being duped will win many from the clutches of this pernicious business.

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WE are very pleased to announce that a new Governor of the Hospital has been recently elected, namely, he who will be Lord Nuffield as soon as the King confirms the title of the Honour He has recently conferred.

▭

REHEARSALS for the Residents' Play are in full swing, and unpopular is any Houseman who is absent any evening without leave, for time is getting short as this year the Play is a week earlier. The dates fixed are the 6th, 7th, 8th and 9th of February, and applications for tickets should be made to R. A. Ratcliff, Esq., The College, before January 27th. No tickets are needed for the Dress Rehearsal on the 5th or for the Gallery.

As the Residents' funds are still suffering from a General Slump, it is hoped that all who can will support the Residents' Ball, thus preventing the possible necessity of the President and Vice-President singing their Liebestod from the Play to theatre queues.

The Ball is on Friday, January 26th, at the Grosvenor House. Mrs. Hurst has kindly consented to act as hostess, and we are sure that it will be, as usual, the most enjoyable re-union of Guy's folk of the year. Tickets, 21*s*. single, can be obtained from the President, any Resident, W. D. Doherty, Esq., or A. Bulleid, Esq.

▭

WE still observe gross disproportion in the firms as a result of the change in order of the appointments, for while only one man is to indulge in a Free Period, 44 have been appointed to the Children's Department. We shudder to think of the effect of the afternoon round on the children when the tiny Bermondsey Ward reverberates to the tramp of this multitude, and wonder whether any arrangement has been made for some of them to seek knowledge at other hospitals.

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WE are glad to announce that the sale of Messrs. Ash & Co.'s Christmas Cards realised £100 for the Hospital.

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SISTER Out-Patients thanks very heartily all those who contributed so generously towards the Landon Tea Fund. The collection of toys and dolls was the best that has ever been received. Over 630 children attended, and the party was a huge success.

Carcinoma of the Large Intestine

A Clinical Lecture by E. C. Hughes, Esq., O.B.E., M.Ch.

GENTLEMEN,—I have had several cases of carcinoma of the large intestine under my care during the past three months, and I thought it might be of interest to discuss them with you.

A frail old lady, aged 71, whose health had never been robust, had noticed for some six months that she occasionally passed blood with her motions. Apart from this, there had been no other symptom. The bowels were regular, the motions formed, the appetite fair, the abdomen was not distended nor uncomfortable, nor had there been any loss of weight.

Examination of the chest and abdomen were negative, but the sigmoidoscope revealed about five inches from the anus an area on the anterior and right lateral wall, from which bleeding occurred very readily from the slight trauma due to the passage of the instrument, and whose mucous membrane was more rigid than normal. Dr. Ryle showed me this area, and also showed me how easy it was to pass the instrument beyond the suspicious area, thus demonstrating that there was no narrowing of the bowel.

A small piece was removed for pathological examination, and was found to be a columnar-celled carcinoma. Dr. Ryle had thus shown me that the diagnosis was a carcinoma of the lower part of the pelvic colon, apparently of limited extent, for the disease had not yet produced any narrowing of the bowel.

Unfortunately, it is unusual to get cases at such an early stage, and I want to impress upon you the importance of bleeding via the anus. Patients only too easily satisfy themselves with the explanation that it is due to piles, and it is important to make a careful examination of all cases of anal bleeding, to see the piles and to exclude lesions higher in the bowel before accepting the piles as being the source of the bleeding.

At the operation a limited area of the lower pelvic colon was found to be carcinomatous, and was resected, and an end-to-end anastomosis performed.

The next case is that of a lady, *æt.* 60, who said she had piles. She complained that she had noticed a small amount of blood with her stools for the past 12 months, and that the bowels were gradually acting more and more frequently, so that during the last three months she had been disturbed once or twice every night, and during the day had several calls to stool. There were no other symptoms, except flatulency from which she had suffered for many years.

On examination the abdomen was found to be slightly distended and tympanitic, but nothing else was detected here. On rectal examination, there were no piles, and the rectum contained a quantity of semi-fluid fæcal material. On sigmoidoscopic examination, an ulcerated area, exuding blood and mucus, was found seven inches from the anal margin.

Here again the diagnosis was carcinoma of the pelvic colon, but in a more advanced condition than in the first case, for the carcinoma had encircled the bowel and was causing chronic obstruction of the colon. This obstruction was evidenced by the general distension of the abdomen and by the frequent small liquid stools. The explanation of the latter symptom is that the colonic contents are held up by the constricted bowel, which allowed only a small amount of material to trickle through to the rectum. There is at once a desire to evacuate the bowel, and this small amount of material, with a variable quantity of flatus, is got rid of. At the operation a carcinoma of the pelvic colon was resected, with an end-to-end anastomosis.

At the present time there is a patient, aged 65, in Lydia Ward, in whom we suspect a carcinoma of the pelvic colon. Some five months ago she had an attack of epigastric pain, vomiting and diarrhœa. Ever since this time she has suffered from increasing constipation, though previously her bowels had been regular in their action.

On examination the patient, who is stout, has a prominent abdomen. This prominence might be due to her stoutness, and, if it were so, one would expect the abdomen to be dull on percussion, whereas the note is tympanitic. This indicates distension of the intestines, and has made us suspicious of a constricting carcinoma of her colon. Every now and again she gets an attack of upper abdominal pain, associated with noisy borborygmi, which are obvious to patients in the adjacent beds. If the abdomen is palpated during an attack, a hard peristalting coil of intestine can be felt in the upper left hypochondrium. This again is further evidence of an intestinal obstruction.

Rectal and sigmoidoscopic examinations yield no information. Further investigations have been made by means of a barium enema and a barium meal, and of these two methods of examination the former is far more valuable in cases of disease of the colon. In this patient the barium enema unfortunately gave no certain information, for the material filled the rectum and lower pelvic colon and was then returned. Dr. Worth reported that he found no evidence of abnormality. A barium meal showed great distension of the colon, as far as the end of the descending colon. The combination of the results of these two examinations further strengthens our conclusions that there is an obstruction in the pelvic colon.

Operation revealed a carcinoma of the pelvic colon at the brim of the pelvis, with the large intestine greatly dilated and hypertrophied. A transverse colostomy was performed, and it is hoped at a later date to resect the growth.

Another patient, a man aged 59, who was eventually operated upon for carcinoma of the pelvic colon, gave the following history: For the 12 months previous to admission to hospital he began to suffer from occasional attacks of painless distension of the abdomen, though his bowels were regular. A fortnight before admission he had two attacks of severe abdominal pain, with noisy flatulent distension of the abdomen and complete constipation. Both attacks were relieved by enemata. He was submitted to the ordinary clinical examination, sigmoidoscopy and a barium enema. Dr. Worth reported that he had a filling defect in his pelvic colon, indicative of a carcinoma, which was proved correct at his operation.

The next case is that of a man aged 67, who for four months had had symptoms of severe right-sided abdominal pain, associated with a hard swelling in the right iliac fossa.

When first seen in the ward, it was difficult to find any abnormal sign, except an obvious recent loss of weight. A short time later he told us that the pain was beginning and that the lump would certainly appear. As we watched the

abdomen we saw a coil of intestine in the right iliac fossa stand out, and a peristaltic wave pass upwards to the right costal margin. On palpating this lump, we could appreciate noisy borborygmi in the distended loop. As the patient's pain subsided, so the coil of intestine became softer, until it was no longer appreciable.

It was clear in this case that we were dealing with a chronic intestinal obstruction at the hepatic flexure, which was proved to be the case at the operation.

I have briefly outlined five cases, of which four showed signs of obstruction of the colon, the common way in which a carcinoma of the colon will call attention to itself. The fact that obstruction is present means that the disease has been progressing silently, until it has encroached to a considerable degree on the intestinal lumen.

Any alteration in the bowel habit of an adult, whether it is in the direction of frequent stools, but more particularly in the direction of increasing constipation, must receive our careful attention. In the middle-aged and elderly individuals it must be regarded with the greatest suspicion, but we must bear in mind that younger people also suffer from the same disease. I have recently had a young woman, aged 24, with an inoperable carcinoma of the rectum, and two men in the early thirties with carcinoma of the pelvic colon—one operable and the other with advanced disease.

In the lower part of the pelvic colon the symptoms will tend to be similar to the symptoms produced by carcinoma of the rectum. The symptoms of a carcinoma of the rectum are the passage of blood and mucus and an increasing number of calls to stool, when a small amount of fluid material and flatus is passed at each effort, while the symptoms of the majority of cases of carcinoma of the colon are due to obstruction. Occasionally it may show itself as an acute obstruction, but far more commonly symptoms of chronic obstruction have been present for some weeks or months before the obstruction becomes complete.

In the cæcum, carcinoma is frequently a silent disease, the patient presenting himself to his doctor because he has found a lump in his right iliac fossa, or because of anæmia or failure of general health.

Cases presenting symptoms suggestive of colonic cancer must be carefully considered and examined, and where the diagnosis is not clear-cut, all methods must be used to reach the final diagnosis. In cases of doubt, the history of the case, the examination of the abdomen, of the stools both chemically and in the bed-pan, the digital and sigmoidoscopic examination of the rectum, and, finally, the barium enema under the eye of the expert radiologist will usually lead to a certain diagnosis. Very seldom will an exploratory laparotomy be required other than to make certain of the operability of the case.

Humoral Mechanisms

A Paper read before the Guy's Hospital Physical Society, by W. R. Spurrell, Esq., M.Sc., F.R.C.S.

ONE sunny afternoon during last summer's heat-wave, I was standing on the Colonnade steps feeling a little resentful that other more fortunate mortals were enjoying themselves on holiday by sea or river, whilst I was doomed to an atmosphere of melted pitch and brick-dust and the music of masons and carpenters as they made merry in the physiological laboratories. In this mood there came to me the gentle voice of your secretary inviting me to read a paper before this ancient society. The suggestion fell upon me like a leaden weight; already overburdened by the heat of the day and the anxiety of many new responsibilities, I felt too overwhelmed to refuse, and I meekly acquiesced.

After the departure of your secretary came reaction. I felt quite aggrieved, I felt badly treated—why could I not be left in peace, and, besides, what had I to say as a mere physiologist to a band of trained and critical clinicians? And then I thought of the reason for this reaction—why had this feeling of resentment swept over me?—why did I feel hot and irritable, a little shaky at the knee and a little disturbed in my command of speech?—why this general emotional disturbance?—why this longing to evade?—why was I afraid? Galen would have replied that my humors were overburdened with "animal spirits"; that the cleansing and revivifying action of the "vital spirits" was lacking. Gaskell and Langley would have said that I was afflicted by a sudden activation of my sympathetic system; that a flood of impulses had swept along the paths of that peculiar sub-division of the nervous system and that I was launched upon that complex and extravagant group of reactions typical of flight or fight. And what would the physiologist of to-day say? I think that, like Galen, he, too would turn to the humors in his search for an explanation, and in this paper I hope to give you

some idea of his line of thought. In so doing I must crave your patience for a certain amount of technical detail, and I must request your company into realms which may be somewhat hypothetical.

The fact that a system which we term protoplasm has been evolved as the basic material for living organisms has led to a study of the factors that may affect such a system and to an attempt to correlate these effects with the phenomena of life. Some thinkers have gone so far as to attribute the whole of vital phenomena to the physical and chemical changes that can be brought about in that complex colloidal system that we term protoplasm. Whether or no one is prepared to accept this creed in its entirety, it is abundantly evident that a large number of the reactions elicited from living material can be correlated with physical and chemical changes in such a system.

Protoplasm, viewed as a colloidal system, consists of two phases, one the solid or " material " phase, which may be compared to the body-work of a sponge, and second, the liquid phase which fills the network of channels coursing through the sponge; the simile is not in any way a perfect one, but serves to stress the intimate relationship between the two phases. It is impossible to consider one phase without the other, as they exist in a state of equilibrium upon which the reactions of the whole depend. In any colloidal system we can affect one phase by altering the other, *i.e.*, in protoplasm we can affect the solid phase by modifying the liquid, and *vice versa*. The ideal of therapeutics should be the establishment and maintenance of the correct equilibrium of such a system.

We have very little knowledge of and very little direct access to the solid phase of protoplasm, for in the ordinary methods of tissue analysis the essential phasic characteristics of living material are destroyed. That it can and does vary is suggested by the study of inherited characteristics of species; the transmission of a special feature by means of definite particulate material, the gene, must be associated with some special arrangement of its substance. If in one and the same animal, you find an asymmetrical distribution of characteristics, it is very suggestive that this depends upon some asymmetrical arrangement of protoplasmic structure, since the liquid phase, being in equilibrium with the generally circulating fluids, can only offer a symmetrical contribution to the colloidal system. Certain " freak " animals show this; pheasants have been described with male plumage and a spur on one side, female plumage and no spur on the other. If a four-toed Andalusian cock be crossed with a five-toed Silky fowl, some of the progeny may have one foot showing the four toes of the male parent and the other foot with the five toes of the female. In these cases the humoral contribution must be symmetrical, and one is driven to the conclusion that there was some difference between the solid phase of plasmic structure on the two sides of the body.

The liquid phase of the protoplasmic system, being in equilibrium with the circulating fluids of the body, is much more accessible to investigation and much more capable of experimental variation; for this reason the " humors " have occupied a prominent place in the study of vital phenomena. In the days of Galen the body-fluids were credited with the transport and distribution of the various " spirits " considered essential to life. As knowledge of chemistry and physics developed, the humors were credited, firstly, with the gross transport of foodstuffs and waste products, later with the respiratory gases. In this century, Starling and his colleagues added to the humoral burden by demonstrating the existence of hormones, and the last few years have seen the number and complexity of these chemical messengers multiplied in a bewildering fashion. The immunologist has added another host of protective substances. All the modern micro-methods employed by the bio-chemist in his examination of the blood and lymph are simply evidence of the well recognised importance of the composition of the " humors " as bearing upon the activities of the complex protoplasmic system.

It is to a more recent aspect of humoral function that I wish to draw your attention this evening. If the reactions of protoplasm are to be related to the state of equilibrium between its phases and if, as we believe, the solid phase is relatively inaccessible, one might hope to find alterations in the liquid phase, alterations which might be identified with changes in the activity of the protoplasmic system; as the liquid phase, in its turn, is in equilibrium with the tissue fluids, lymph and blood, so one might hope to find changes in these accessible media and to correlate these changes with the activity of protoplasm. If such changes were discovered, then by a process of reversal it might be possible to elicit some form of protoplasmic activity by producing the appropriate change in the humors. What appears to be a successful prosecution of this line of thought is being achieved in that sphere of first protoplasmic activity which we associate with the sympathetic and parasympathetic systems.

Up till comparatively recent times our knowledge of the nervous system depended mainly on a detailed analysis of the anatomical pathways and

on a gradual unravelling of the complicated tangle of association and linkage paths between the various anatomical sub-divisions of the system. Function was rather subordinated to the arrangement of the anatomical jig-saw, and quite unconsciously we have drifted into the extremely convenient state of mind which credits each nervous unit with its own individual function. This is a neat and orderly state of affairs and helps enormously; if an organ has one function we search for one controlling nervous pathway; if an organ has two functions we seek for two types of nerve-fibre. Thus the investigator of the cerebro-nervous system is essentially anatomically minded; the best example of that I can give you is the property of " fatality " ascribed to conduction in the reflex arc—other things being equal, conduction through the arc produces the same result, and this is inevitable because of the anatomical arrangement of the neurones concerned.

This state of mind led to no difficulty in the case of the peripheral somatic mechanism—the only known function of voluntary muscle, controlled by the nervous system, is one of contraction or tensional change; a denervated voluntary muscle is toneless, and the nervous control is simply concerned in raising this tone above zero in various ways. Thus, one function—to increase tone—required one nervous pathway, and this was easily found in the somatic motor nerve. It is true that many attempts have been made to differentiate types of tension developed by postural tone and voluntary movement; correspondingly, attempts were made to differentiate nervous pathways, *e.g.*, the sympathetic control of postural tone as suggested by Hunter and Royle and the ordinary somatic motor nerve for voluntary movement. Modern work suggests that there is no need to postulate two nervous pathways—variations in the rate and rhythm of nervous discharge along the somatic motor nerve can account for both types of motor response; in any case, these two types of activity are not mutually antagonistic.

When you turn to visceral function, the problem is very different. Involuntary muscle, by itself, possesses a degree of tone, and is therefore capable of two diametrically opposed functions, viz., an increase or decrease in tone, or what is usually referred to as a motor or inhibitor response. Until recently, the exhibition of these two different types of activity was explained by a dual innervation, *e.g.*, in a mixed peripheral nerve stimulation which succeeded in producing constriction of the arterioles was credited to vaso-constrictor fibres, whereas the existence of vaso-dilator fibres was postulated when stimulation resulted in vaso-dilatation. By various experimental manœuvres it appeared possible to differentiate between stimulating conditions which suited one or other type of nerve-fibre, *e.g.*, faradic stimulation of a mixed nerve picked out the vaso-constrictor fibres, whereas slow, interrupted shocks applied to the cooled nerve elicited a vaso-dilator response. You will here note what I mean by the anatomical mind—one function, one pathway.

A very large proportion of the visceral system receives a dual innervation from the sympathetic and the parasympathetic systems, and from the earliest days of recognition of these two anatomical sub-divisions of the autonomic system, they have been credited with mutually antagonistic functions. This forms a delightful and orderly picture, eminently suited to the anatomical conception of functional paths and, incidently, well adapted for the construction of those parallel columns of contrasted functions so popular in some of the smaller text-books. Two examples will serve to illustrate this suggested antagonism. The sympathetic supply to the small intestine is described as inhibiting the movement and tone of the bowel while increasing the tone of the ileo-colic sphincter, the parasympathetic is credited with the reverse. The sympathetic supply to the sub-maxillary gland produces vaso-constriction and little, if any, secretion, whereas the parasympathetic supply produces vaso-dilatation and a copious watery secretion. This idea of mutual antagonism between the two systems has been developed to an alarming degree, until physicians and surgeons have been encouraged to step in to redress any apparent pathological unbalance between the two systems by weakening or removing that which is considered the stronger.

Superficially, this antagonism is often very striking, but as soon as you begin to make a detailed study of any particular functional path you meet with difficulties. I will limit myself to one example of which I have had a little personal experience, but it is typical of many others. If you stimulate the vagus and record the movements of the stomach, the result usually obtained is one of increased motility of that organ, *i.e.*, you say the typical parasympathetic influence upon the stomach is a motor one. If you stimulate the sympathetic within the thorax, the effect upon the stomach is usually a diminution in tone and motility, *i.e.*, the typical sympathetic influence upon the stomach is inhibitor. But it is not difficult to obtain exactly the reverse effect, stimulation of the vagus giving inhibition, of the sympathetic giving increased motility. True to the anatomical conception, the first explanation offered was that these nerves contained a mixture

of fibres; in the vagus the majority were motor, a few inhibitor in the sympathetic, the majority were inhibitor and a few motor. Although this meant abandoning the idea of clear-cut antagonism between the systems, it preserved the more fundamental conception of individual nerve paths for individual functions. A detailed study of the factors which decided what functional result would follow stimulation of these nerves made it increasingly difficult to accept the existence of two types of nerve fibre. To take the case of the vagus, it was found quite impossible to associate any particular type, frequency or intensity of stimulation with motor or inhibitor effects, *i.e.*, it was found impossible to determine any particular set of conditions which, when applied to the nerve, would pick out motor or inhibitor fibres.

Furthermore, all attempts to split the nerve into individual bundles failed to find separate motor or inhibitor groups of fibres. At the same time evidence accumulated to suggest that it was not the particular nerve-fibre that decided the functional result, but rather the state of the peripheral mechanism reached by the nervous impulse. In actual experiments, either under anæsthetics or in decerebrate preparations, the tone of the resting stomach is usually low; stimulation of the vagus under such conditions usually produces a motor response. If the tone of the stomach is " built up " by repeated vagal stimulation or by the introduction of meat extract into the viscus, precisely similar stimulation of the vagus will now probably produce inhibition, *i.e.*, by altering the condition of the peripheral mechanism as evidenced by the tone of the resting stomach; what appears to be identical stimulation of the same nerve fibres can produce diametrically opposed results.

So here the physiologist began to depart from the anatomical doctrine; he was willing to believe that one and the same nervous pathway could control more than one function, and suggested that the particular function elicited by the passage of an impulse down the nerve fibre depended upon the state of affairs at the periphery reached by this impulse. He would have been more hesitant about taking such a drastic step were it not for the fact that, through other channels, evidence was accumulating as to the nature of this peripheral mechanism whereby a nervous impulse could be translated into functional activity, and this evidence afforded a relatively simple explanation of how one nervous impulse might produce one or other effect. It is to our ideas of this peripheral mechanism that the title of this paper particularly applies.

It had long been recognised that adrenalin could produce a syndrome very similar to that associated with general sympathetic activity, and it was soon suggested that on stimulation of the sympathetic, adrenalin or something like it was actually liberated at the nerve endings; this adrenalin was thought to be responsible for the translation of the nervous impulse into the functional activity typical of the sympathetic system. This adrenalin, liberated at the periphery, would be carried in the tissue fluids and so brought into relationship with the protoplasm to be activated. Thus we have the basis of the present-day conception of the *humoral transmission of nerve impulses.*

This theory did not advance very far in the case of adrenalin, and it was not until the liberation of some substance was demonstrated in relationship to the parasympathetic that much progress was made; now the evidence is accumulating rapidly. Loewe showed that the effect of the vagus in slowing the heart of a frog could be reproduced in the heart of a second frog if it were perfused with the Ringer's fluid which had previously passed through the heart of the first frog during vagal stimulation, *i.e.*, it was possible to transmit by a humoral mechanism a nervous influence from one frog's heart to another. Many such humoral transmissions have been demonstrated. Under appropriate experimental conditions, Dale and Gaddum have shown that the blood leaving the stomach after prolonged stimulation of the vagus contains a substance capable of producing a typical parasympathetic effect in other organs, *e.g.*, heart, intestines and blood vessels. Gibb has shown that stimulation of the chorda tympani to a perfusate submaxillary gland liberates in the perfusate a substance which is capable of eliciting secretion when circulated through a resting gland; the secretion resulting from this humoral mechanism may be as much as 50 per cent. of that produced by the stimulated gland. A careful examination of the properties of this substance transmitted in the humors suggests that it is acetyl-choline or some closely allied substance. Acetyl-choline can be extracted from tissues in bulk and identified; acetyl-choline mimics the parasympathetic very faithfully. The biological assay of this parasympathetic substance agrees very closely with acetyl-choline. Finally atropine, which paralyses typical parasympathetic effects, also abolishes the action of acetyl-choline. For these reasons it is suggested that a nerve-impulse travelling down a nerve fibre and producing a para-sympathetic response, does so by means of the liberation and transmission of acetyl-choline in the peripheral humors.

Cannon has worked on parallel lines with the sympathetic, and he has been able to show that

sympathetic stimulation does lead to the production of something transmissible in the humors and capable of eliciting a typical sympathetic response in other organs. The type of experiment he employed consisted in the preliminary removal of the sympathetic chain and adrenals in a cat; then prolonged stimulation of the sympathetic fibres to the tail of the cat produced typical sympathetic reactions in other organs of the body, *e.g.*, heart—*i.e.*, something had been transmitted via the body fluids from the site of sympathetic stimulation to other parts of the body, and that something was capable of mimicking sympathetic activity. A careful comparison between the properties of this sympathetic substance and adrenalin showed that they were not quite the same, and so Cannon has called the sympathetic substance " sympathin."

This theory of the humoral transmission of nervous impulses gives us a picture of the changes resulting from the arrival of a nerve impulse at the periphery of the autonomic system; can it help us to understand the question of one nervous pathway controlling different functional effects? When the vagus to the stomach is stimulated, motor or inhibitor effects can be obtained; the motor effects are abolished by atropine, can be mimicked by acetyl-choline and, with certain precautions, an acetyl-choline-like substance can be identified in the blood leaving the stimulated viscus. These observations suggest that stimulation of the vagus, producing motor effects on the stomach, employs a peripheral acetyl-choline mechanism. When the sympathetic is stimulated, inhibitor or motor effects can also be produced; the motor effects can be abolished by atropine and mimicked by acetyl-choline, again suggesting that an acetyl-choline mechanism is employed. According to this view motor effects, whether elicited via the vagus or the sympathetic, depend upon a similar peripheral mechanism employing acetyl-choline as the transmitter. The similarity is suggestive, but not so well proven in the case of inhibitor effects; both vagus and sympathetic can produce inhibitor effects, they are not abolished by atropine and can be mimicked by adrenalin.

Time does not allow me to go into details of other examples of this type, but I will try to give you a picture of what the evidence suggests. In the autonomic systems, at least, the final stage in the translation of a nervous impulse into functional activity involves the liberation of specific chemical substances at the periphery, and these substances are transmitted in the humors to the protoplasm of the effector organ; at least two, possibly three, of these humoral mechanisms have been demonstrated. Where two anatomically different nerves supply an organ, *each* nerve can employ *either* humoral mechanism, although typically, *i.e.*, under the conditions that usually exist at the periphery, each nerve may give preference to one particular mechanism. By varying the conditions at the periphery, the nerves can be made to vary the humoral mechanism they employ, and so vary the functional result. In the stomach the two humoral mechanisms are associated with the production of substances very like acetyl-choline and adrenalin. When the vagus is stimulated, the typical response is a motor one and involves the acetyl-choline mechanism; by altering the state of affairs at the periphery vagal stimulation now produces inhibition, *i.e.*, the adrenalin or " sympathin " mechanism is employed. Thus one nervous pathway, controlling two peripheral humoral mechanisms, becomes capable of producing two functional results.

Although I have restricted myself to the part played by humoral mechanisms in the autonomic system, this conception is by no means so limited. It has been applied to the transmission of impulses across the synaptic junctions of peripheral ganglia and to the transmission of impulses to the suprarenals. Sherrington's conception of conduction in the reflex arc is based upon somewhat similar principles.

Many of you, by now, have become exceedingly bored by what appears to be a mass of theoretical physiology which has little direct bearing upon questions of practical medicine, but I think at least two lines of application can be considered. There is, first of all, the general therapeutic ideal of *restitutio ad integrum*—this really means the re-establishment of the normal state of equilibrium in that complex colloidal system we term protoplasm. This idea that the nervous system induces activity in protoplasm by delivering into its liquid phase definite chemical substances indicates the final channel through which you, by your therapy, should aim at restoring or modifying the activity of living protoplasm. In the narrower view of special therapy it points the way to the use of those specific chemical substances which are actually used in the normal biological process of nerve transmission.

The second line of application is, to my mind, more urgent. The modern surgery of the autonomic system appears to me to be based mainly upon the conception of a balance between two opposing sets of nervous influence; when this balance is upset to the disadvantage of the patient the surgeon may attempt to alleviate the condition by removing or weakening the nervous component which he considers to be in the ascendant. If the ideas that I have put forward be correct, the basis for modern autonomic surgery becomes far

from sound. Let us consider the example of megalo-colon; here the supporters of the nerve-balance theory suggest that the sympathetic influence preponderates, and so they remove the sympathetic. Although under normal conditions in the colon the state of the periphery is such that the sympathetic influence is typically inhibitor, *i.e.*, it uses a peripheral adrenalin mechanism, in the diseased state we have no knowledge as to the peripheral condition, and so we do not know which, if any, group of nerves is in the ascendant. In certain accessible sites, this question may be partially answered by studying the effect of a preliminary ganglion block with a local anæsthetic and noting any functional change resulting. This can be done most readily where the sympathetic is suspect, as in peripheral vascular spasms, in which the sympathetic ganglia concerned may be accessible. So firm, however, is the belief in this state of nervous antagonism that a negative result from ganglion block has not prevented the surgeon from proceeding to remove the suspected sympathetic.

To return to the colon; even if we are correct in the belief that over-action of the sympathetic is responsible for the enlargement of the bowel, when the sympathetic is removed, the parasympathetic still remains, and this, as we have seen, is capable of employing both peripheral mechanisms, motor and inhibitor. No one knows what peripheral changes result from ablation of the sympathetic, but the final functional result is frequently a temporary improvement followed by a slow return to the original state; in the case of the colon this may mean that the remaining parasympathetic system is making more and more use of the adrenalin mechanism.

According to the humoral theory, these pathological states should be attributed, not to an unbalance between the influences of the two nervous pathways of the sympathetic and parasympathetic, but to an unbalance between the peripheral mechanisms employed by these nervous paths. Megalo-colon would result from the relatively excessive influence of the adrenalin mechanism, and the cure of megalo-colon should be achieved by restoring the balance between the acetyl-choline and adrenalin mechanisms. Unfortunately, at present we do not know how to get at these peripheral mechanisms, but the object cannot be achieved by dividing one or other nervous path since each of them is capable of controlling both types of function.

From these considerations it must be clear that the titles " sympathetic " and " parasympathetic " are being robbed of a good deal of their significance. They can still be employed in their anatomical sense, but even here the division is largely artificial; from a functional point of view the terms are meaningless and confusing. The time is approaching when we must put our house of words in order, and a new nomenclature will be born. The anatomist must content himself with a terminology of a purely geographical and structural nature; already some have denied the existence of any essential difference between the two sub-divisions and wish to employ the one term sympathetic for the whole. The physiologist will cease to worry so much about the nervous pathway, but will direct his nomenclature toward the type of peripheral mechanism employed; Dale has made a tentative suggestion that the terms " cholinergic " and " adrenergic " should be adopted. " Cholinergic " will be applied to those phenomena which were previously called " typical parasympathetic," and which we now believe to depend upon an acetyl-choline mechanism. " Adrenergic " will be reserved for those phenomena previously called " typically sympathetic " and mimicked by adrenalin or its close ally " sympathin." Physiological therapy will then aim at restoring and maintaining the balance between the " cholinergic " and " adrenergic " systems. When the vagus is stimulated and the stomach gives a motor response we shall refer to it as being " cholinergic "; when the response is inhibitor, we shall style it " adrenergic."

These are the lines followed by modern physiological thought; the problem bristles with difficulties, but its fascination has attracted many investigators with very fruitful results. At present it is admittedly difficult of constructive application; the time is not yet ripe, but it can give us seriously to think of the rationale of some of the present-day treatment.

So, when I stood on the Colonnade steps on that sunny summer afternoon and felt myself the prey to a conflict of irritation, fear and evasion, the modern descendant of Galen would have said, " His humors are laden with ' sympathin '; the liquid phase of his protoplasm is charged with the chemical transmittors associated with the reactions of fright and flight; he is the victim of an ' adrenergic ' storm."

Guy's Hospital Gazette

The Editor will, at all times, be glad to consider articles or sketches, provided that they are accompanied by the writer's name and address, not necessarily for publication. The payment that the GAZETTE can offer is merely nominal. Authors who desire reprints of their papers should make their own arrangements with the printers when they return their proofs. All contributions to be addressed to *The Editor*, who does not accept responsibility for the views expressed by contributors.

Verse

(Blank verse prompted by blank sensations after a first blank patient.)

No coward he,
Yet fearing this one thing,
This dreadful moment
Of his life.
He turned to flee,
But no, he must be bold ;
He must take courage—
Must take hold
Of these his instruments
And put them in a dish
With Lysol filled.
He must speak firmly
To his patient there ;
Say, " Open wide, please."
(No good now to wish
This were a Phantom, not
A living head.)
He now must seek
With misty glass and
Shaking probe
Inside a real and
Salivating mouth ;
Among such teeth as
Soon will start away
If he but pierce
A trifle deep, or inadvertently
Slip off on to the gum.

Ah ! horror, how shall he describe
That ghastly morning when,
For three long hours he stooped
In soul-reflecting agony
O'er this his victim, whom
He owed no grudge
Yet scarce could spare
A moment's rest
From shudder-grinding burr
And pressure-sickening
Chisel chips.

At last it finished seemed,
And he with armlet
Blue upon white coat-sleeve
Did approve the edges.
Auto-cleansing ;
And then, later, glistening
Silver, mercury and
Tin lay in
The place of cankerous caries.

All was well ;
The card was signed,
The dresser now exhausted
Feeling wiser,
Carried tools,
Well-wrapped, to steriliser.

NOVODENT.

Ode to a New Surgeon

In modern *guys* my muse strikes up an *Eyre*
Of lavish praise ; nor doth she *Turner* hair
If men *D.C.ve.* themselves that they know best ;
And *Rud*'inveigh against the pue*Ryle* jest.
(For some, indeed, have *Gibberd*, wroth, that *Ire-Dell*ights to link his name with *Eyre.*)
For man and beast, from *Doherty Cook* below
To counting-house and *Chapple*, all should know—
Shy *Coney*, you, and even *Ma*, *shall* hear
And celebrating, *Ship away* some beer.
Re*Buchan* ass who says he *Witts* it *Knott*
Of little *Worth* is he, e'en if you *Add a Scott.*
It *Hurst* me *Mutch* again to *Barber* dart
Wherewith my muse *Cann* pierce the *Close Locke*'d heart.
" *Ryffel*ect, ere it's too *Layt*, *on* such a *Joey*,
A surgeon who constantly his dresser's hopes doth buoy."
But stay, *Watt* need to *Sy* ; *mond's* fate at Guy's ne'er *Shone*
More *Bright* ; Oh, Governors, *Grant Massie* honours on
Our newest surgeon ; and now at last *'Eas on*
The Staff, we hope fresh triumph still *Douth waite*
And una*Lloyd* successes cover up, his pate.
Good *Evans*, three and twenty lines ! I must make off ;
My muse has done her stuff, a welcoming t'*Eckhoff.*

S.

Musical and Operatic Society

THE Annual General Meeting of the Society was held on Thursday, December 21st, 1933. Owing to the unfortunate absence of Dr. Fawcett, the President of the Society, through illness, Mr. Mollison took the Chair.

The accounts of the Society were submitted and approved, but it is regretted that there was a loss on last year's working, and it is hoped that this will be more than balanced by our next production.

The following officers were elected for the ensuing year :—

Patrons—Lady Bonsor, Major J. H. Beith.

President—Dr. J. Fawcett.

Vice-Presidents—The Matron, H. L. Eason, Esq., W. M. Mollison, Esq., W. H. Trethowan, Esq., E. C. Hughes, Esq., J. Lewin-Payne, Esq., Col. H. C. Fortescue, W. E. Stuart-Menteth, Esq.

Hon. Treasurer—W. M. Mollison, Esq.

Hon. Secretaries—W. Hughes, Esq., D. H. MacKay, Esq., G. A. R. Winston, Esq.

Hon. Librarian—L. G. Lyle, Esq.

Students' Choral Representative—V. H. Bowles, Esq.

Students' Orchestral Representative—A. E. K. Salvi, Esq.

Sisters' Orchestral Representative—Sister Johnston.

Sisters' Choral Representative—Sister Parkins.

Nurses' Choral Representative—Nurse N. Longfield.

It was decided to stage a production to take place about the third week of November next, and arrangements are being made to obtain the Guildhall School of Music.

There exists amongst many of those interested in the Society an opinion that we should depart from the usual Gilbert and Sullivan comic operas, and when put to the meeting this opinion was considerably strengthened. A few suggestions were made, and the most popular were as follows, in order of voting : " Merry England," " Belle of New York," " Ruddigore," " Derby Day." Therefore, before making a decision, the Executive Committee would welcome suggestions from members of the Society, which may be handed to either of the hon. secretaries.

We take this opportunity of inviting all newcomers to join the Society. Rehearsals will commence shortly, and all interested are asked to watch the notice-board in the Colonnade for future announcements.

Extractions in Orthodontics

A Paper read before the Dental Society, Guy's Hospital, by R. E. Rix, Esq., M.R.C.S., L.R.C.P., L.D.S., on November 27th, 1933

MR. CHAIRMAN and GENTLEMEN,—The title of this paper was suggested to me by your Past President, Mr. Warner, as being of practical interest and as one around which ranges a good deal of controversy. In England I think the controversy is more apparent than real, and, such as it is, has been occasioned in great part by American influences. The vast amount of American literature on orthodontics is built upon the supposition that 32 permanent teeth must, somehow or other, be put in order. We are possibly a little overawed, and our scanty literature on our own particular problems tends to take upon itself an apologetic air at the mention of extractions.

I can only conclude that we have more difficult material to work on. Children present themselves for treatment later ; the temporary dentition is not so well preserved until it is physiologically shed, and possibly the early nurture of children is not so good.

I am not championing the cause of extractions. Habitually I am reluctant to extract. I will endeavour to show some of the advantages and limitations of extractions.

The question of the advisability of extracting certain teeth to make room for the remainder obtrudes itself more and more after the age of 10 to 11 years. To resort to expansion plates in the hope of completely overcoming some of the more severe shortcomings of Nature for 10 or 12 years is to be frequently disappointed. One does not want, of course, to condemn the principle of expansion in general. Excellent results are to be seen in the Children's Department. It is frequently necessary both to expand and extract. In endeavouring to make room for all the teeth, one should be careful not to force the arches into unstable positions. It should also be borne in mind that the arches will often be lacking in antero-posterior depth as well as in width, and lateral expansion cannot by itself correct the faults of shortened jaws.

Apart from the purely local problem of finding enough room in the jaws for the teeth, cases should be considered from the general æsthetic point of view. There should be some harmony between the size of the arches and the size of the face. Arches should not be expanded to attain alignment of all the teeth if, by so doing, the arches will be out of proportion to the face. On the other hand, extractions should not be embarked upon if they will lead to such a diminution of the size of the arches that an unpleasing disproportion occurs in the opposite direction.

To quote from Norman Bennett's text-book : " The treatment in which the disproportion will be the least should be selected."

GENERAL CROWDING

When it is inadvisable to make room for all the teeth on the score of age or æsthetics, and the upper and lower arch relationship is normal, extractions should be done symmetrically, *i.e.*, on right and left, in the upper and lower jaw. " Symmetrical extractions " is a phrase which has led to much harm, as I will show you later, but in these cases of general crowding with normal arch relationship it is a useful phrase to remember.

The tooth of choice is usually the first pre-molar. The width of a pre-molar is called one unit. The space gained by its removal permits the teeth anterior to it to be aligned easily. One unit is removed on each side of the upper and lower jaw. In this way the articulation of the cusps of the cheek teeth is not upset. The occlusion remains balanced and the same as before.

Occasionally in crowded upper jaws, and more rarely in lower jaws, the lateral incisors are chosen for extraction instead of the first pre-molar. It is permissible when the canine teeth are erupting too mesially yet without much mesial inclination of their long axes. The step should not be taken without X-rays being procured to ascertain the exact position of the canine teeth. When a mesial inclination is seen it will become more pronounced and unsightly as the canine teeth erupt and tilt still more forwards to close gaps made by extracted laterals.

If lower incisors are crowded there is a temptation to extract one and allow the remainder to align themselves in the extra space provided. The space almost invariably closes, even if done up to the age of about 20, without any aid. The individual displacements of the remaining teeth, however, seldom greatly improve under the influence of the tongue and lip alone. Unless apparatus is used, one is soon confronted with the problem of three irregular incisors with still no space available for their alignment.

The front of the lower arch becomes more V-shaped with the removal of an incisor. The teeth do not just move round the existing arc to close the gap. This collapse may have the remote effect of causing a slight collapse of the upper arch in front and a slight upper incisor irregularity may develop subsequently, especially where the growth of the upper jaw was such that there was previously only just enough room for the teeth to be in alignment. One should not be readily tempted to remove just one lower incisor in a whole dentition.

CROWDING FROM EARLY LOSS OF DECIDUOUS MOLARS

Another large group of cases which seek treatment soon after the age of 11 years consists of those children who are developing trouble from the early loss of deciduous molars. The space required for the pre-molars is then encroached upon, and their final eruption in alignment together with the canine teeth is impossible. It is a pity that no machinery exists to enable the L.C.C. School Dental Clinics to provide space retainers for their children after deciduous molar extractions. Many of these children are finally referred to Guy's Orthodontic Department. To digress more for a moment, there seems to be another possible and more serious result of early loss of these temporary molars. I believe it occasionally alters the whole arch relationship and brings about a lower pre-normal occlusal position. In the few dozen of these cases I have seen there was a high proportion which had multiple extraction of cheek teeth at about the age of six. It seems that if the bite is suddenly let down before the central incisors and first molars have fully erupted, the slight concomitant forward movement of the mandible is just enough to bring about an incorrect incisor relationship, and finally the whole lower arch is stabilised in a pre-normal position.

To return, Sim Wallace maintained that first molars drift forwards in direct proportion to the degree of subnormal growth of the jaws. Certainly where deciduous molars have been extracted the depth of the arch antero-posteriorly is shortened. The first pre-molar usually succeeds in erupting into good position. The teeth to suffer are the second pre-molar and canine. The second pre-molar usually erupts lingually and the canine labially.

The manner in which these pre-molar spaces close has been debated by many. It is commonly thought that the first permanent molars drift forwards, but since it is so difficult to find a fixed point in the skull from which to take measurements it is impossible to be dogmatic. From purely local observations in the mouth I am inclined not to believe this entirely. In practice I find that whereas molars readily tend to assume a relatively forward position, lower molars are slow to do so. Nevertheless, pre-molar spaces close with equal frequency both in the upper and the lower jaw. How does this come about ?

Providing the lower jaw is intact, the space in the upper jaw closes principally from behind, *i.e.*, the six-year-old molars drift forwards. In the lower, however, the space closes principally from the front, *i.e.*, the lower front teeth collapse lingually and distally.

The reason for the difference is probably to be found in the manner in which the two arches occlude.

If the upper deciduous molars are extracted the front of the arch cannot fall lingually on account

of the way the upper and lower incisors overlap. But if the lower deciduous molars are extracted, there is no advantageous incisor overlap to prevent the lower incisors falling lingually.

It appears, therefore, that an intact lower arch is a very desirable thing to have, for it helps to maintain the upper arch.

If both upper and lower deciduous molars are extracted both upper and lower front teeth can fall back, and both upper and lower molars can move forwards. The forward movement of the lower molars is more in the nature of a tilting movement.

These foregoing observations have an important bearing on treatment by extractions.

When the arch relationship is normal but the upper first molar on each side has advanced, a unit may be removed on each side in the maxilla and the lower arch left alone, the upper and lower first molars will bear a local post-normal occlusal relationship to one another.

When the first upper molar advances on one side only a unit is removed on the same side in order to align the remaining teeth. No other so-called balancing extractions are necessary.

You will notice that it has been assumed that the molar or molars cannot be moved distally back to their proper position. Slight distal movement, however, can actually be obtained before the age of ten with difficulty.

If the space for the pre-molars is encroached upon in both upper and lower jaw on the one side, a unit is removed on the same side only, both above and below.

Where asymmetrical extractions are done in the upper and lower jaw, the centre line does not correspond to the centre line of the face, but it is of little æsthetic disadvantage. And when a unit is removed on one side in the upper, but not in the lower, the upper and centre lines do not correspond. Again it is of little significance.

Let us now turn to dentitions which have insufficient space for all pre-molars in the lower jaw only.

Here is a case which had first pre-molars extracted on both sides in the lower jaw. The pre-molar spaces had partially closed owing to the early loss of deciduous molars. You can see that the lower molars have tilted forwards and certainly do occupy a pre-normal position in relation to the upper molars, but the six lower front teeth have fallen lingually. There is a suggestion also that the upper incisors are growing out of alignment. The front of the upper arch is missing the support of the front of the lower, and is tending to collapse. It would have been wise to have extracted a pre-molar in each side in the upper jaw as well.

Likewise, when the pre-molar space on one side only in the lower jaw has collapsed because of the early loss of deciduous molars on that side, it is usually advisable to remove a pre-molar below *and* above on the same side.

You will notice, therefore, that whereas you can extract in the upper without extracting in the lower, it is usually wise to extract in the upper if you must extract in the lower.

If a lower molar is in good position in relation to the upper and has not moved appreciably, but most of the movement closing the pre-molar space has taken place in the lower front teeth, then one should consider the advisability of attempting to move those front teeth forwards, and thus open up the space for both pre-molars.

In these examples of crowded spaces with normal arch relationship I have always chosen the first pre-molar for extraction. It is sometimes expedient to remove the second pre-molar instead if it is already locked in a lingual position by the bite.

The removal of first molars is seldom required. Too much space would be gained and the teeth in the final denture would possibly not establish normal contact with one another. There is also the fear of increasing the incisor overlap. In severe cases, however, it gives good results. A molar may be extracted on one side and a pre-molar on the other. It is sometimes necessary to sacrifice a carious first molar, whose pulp is in danger, rather than a sound pre-molar. A molar, however, which is satisfactorily filled should not be chosen merely because it has a filling in it.

If any of the first molars have to be extracted they should be kept until the first pre-molars are just in occlusion. In that way there will be less tendency for the bite to close when they are extracted. If the extraction of the first molar is delayed until the second has erupted, the latter will tilt forwards, not establish good occlusion with its opposing tooth, and will result in a stagnant, triangular interdental space between itself and the second pre-molar. This is particularly noticeable in the lower jaw.

POST-NORMAL OCCLUSION

We will now pass on to cases where the antero-posterior arch relationship is abnormal, and this evening I will deal only with post-normal occlusion. In normal occlusion the antero-buccal cusp of the first upper permanent molar fits into the buccal sulcus of the lower first molar. If the lower molar articulates with the upper in any way distal to that position, the condition is commonly

called post-normal occlusion. It is assumed that the first molars are in correct position within their own arches and have not moved as a result of extractions mesial to them. The profile usually reflects this deviation from normal arch relationship and in some cases it leads to a displeasing and even disfiguring appearance.

An attempt should then be made to correct the whole arch relationship and so improve the profile, without resorting to extractions. The possibility of accomplishing this after the age of 11 years diminishes.

After the age of 11 it is often expedient to leave the cheek teeth in their mal-relationship and correct the relationship of the upper and lower front teeth only, by extractions above and the subsequent use of appliances to retract and align the upper front teeth only. This line of treatment is all the more readily embarked upon if the appearance of the profile does not show the mandible to be greatly retruded. It has the advantage of being a stable cure, which is brought about with comparative ease and rapidity.

This is a typical case of post-normal occlusion. The molar occlusion is wrong. The incisor overlap is excessive and the upper incisors are in labio-clination. In profile the retrusion of the mandible is not great, but is accentuated by the labio-clinated incisors which hold the upper lip too forward, and incidentally makes it impossible for the patient to keep his lips habitually sealed. The complaint of the parents was not that the chin was retruded, but that the upper front teeth protruded. In view of his age (13 years) it was decided to remove the first pre-molar on each side of the upper jaw and retract the six front teeth.

His final appearance is quite good. The retrusion of the mandible is still there, but is not so apparent. There is no hindrance to the sealing of the lips. The changing expression and varying movement of the lips reveal nicely related upper and lower front teeth.

Here is a boy, *æt.* 13 years 8 months, whose profile is good, but who has post-normal occlusion. He complains of the appearance of the front teeth. It will be necessary only to extract the first pre-molar on each side in the maxilla and retract the six front teeth. Similarly, the appearance of this girl, *æt.* 13 years 9 months, is satisfactory after like treatment.

To repeat, for these older children I usually resort to extraction in the upper jaw when the inferior retrusion is not unsightly.

Extractions alone will not, of course, allow the front teeth to fall back on their own. Apparatus must be used. In the Children's Department, we retract the teeth in two stages with removable appliances. Fixed appliances are equally efficient, but with 800 children under treatment its use is limited to a selected few.

First stage.—The canine teeth are retracted while the second pre-molars are held back. The incisor overlap is decreased by thickening the plate anteriorly and gauging the bite on the lower incisors. The canine teeth are retracted until their relationship with the lower canines is a normal occlusal one, *i.e.*, the long axis of the upper is distal to the long axis of the lower canine.

A second plate is then made with a buccal bow to retract the four incisors and to hold back the canine teeth in their retracted position. The plate may be cut into a saddle shape, when there is no fear of the bite closing again.

It seems hardly necessary to point out in this palliative method of treating post-normal occlusion it is unnecessary, in fact unforgivable, to extract the lower first pre-molars as well as the upper first pre-molars. Nevertheless the phrase "symmetrical extraction" has been twisted into a reminder and incentive to extract teeth above and below. Nothing must be done which will shorten the lower dental arch antero-posteriorly.

When the arch relationship is post-normal on one side only a pre-molar may be extracted in the maxilla on the post-normal side only and the front teeth retracted.

For those children who present themselves for treatment after the age of 11 years with post-normal occlusion and a distinctly receding chin one should attempt to correct the arch relationship, and not resort to extracting upper pre-molars. The chances of stabilising the lower jaw in a forward position may be slender, but a habit of biting forwards in normal occlusion may be induced, which the child will persist in all the more readily as its personal vanity develops.

The most difficult of all problems are met with in post-normal occlusion complicated by the early extraction of lower temporary molars. The front of the lower arch is very dependent, as I have already explained, for its position upon normal approximal contact of all the cheek teeth. If deciduous molars are removed, not only do the first permanent molars tend to drift forwards, but the front of the arch, *i.e.*, the lower incisors, fall lingually. The lower incisors then present a picture of what might almost be called retruded retrusion.

If the lower temporary molars must be extracted in post-normal occlusion cases, some device certainly should be inserted to maintain the space and thus prevent shortening of the arch, and if

a case already presents a shortened lower arch, with little room for both pre-molars to erupt on each side, an attempt should be made to move the lower six front teeth forwards before the question of extractions is considered. The spaces may finally be large enough for all the pre-molars. After the age of 11 it becomes an increasingly prolonged and difficult procedure, and one is sometimes, therefore, forced to extract a pair of pre-molars in the lower jaw. It is the sorriest step you can take in orthodontics.

If the upper first pre-molars are also extracted and the six upper front teeth retracted they still will stand too far forward in relation to these lower incisors. The result in the mouth is unsatisfactory and the profile poor.

Correspondence

Ladies Night

To the Editor of the GAZETTE

SIR,—Perhaps you will allow us to do a little town-crying in your correspondence columns. We have to announce the rapidly approaching advent of Ladies' Night. For those of your readers who do not know what this occasion may be we had better make some explanation.

Next Thursday, January 25th, the Debating Society, in accordance with time-honoured tradition, holds a meeting to which ladies are invited. Representative speakers will oppose those of the Royal Free Hospital Union, and thus will be launched an argument which no power on earth (short of the chairman's bell) can be expected to curtail.

The meeting will be held, by Matron's kind consent, in the Nurses' Home. The Nurses' Debating Society, the students of the Royal Free and any lady friends whom members care to bring will be our guests for the evening.

There is no need, Sir, for exhortation in this letter, for when it is mentioned that our visitors must be entertained, that refreshments will be gratis, and that no pains have been spared to select an interesting subject, no one who has ever before supported the Debating Society will fail to come.

Yours, etc.,

THE SECRETARIES.

Guy's Hospital Debating Society,
Guy's Hospital, S.E.1.

Royal Masonic Hospital

To the Editor of the GAZETTE

SIR,—In my article on the Royal Masonic Hospital I mentioned that the pathological work was carried out at the adjacent Queen Charlotte's Isolation Hospital. In point of fact, the work is done by the Clinical Research Association, and I wish to offer my sincere apologies for my mistake.

Yours, etc.,

GAVIN THURSTON.

Reviews

Introduction to Physical Chemistry. By ALEXANDER FINDLAY. Published by Messrs. Longmans, Green & Co., London. *Price* 7*s*. 6*d*.

THIS is a text-book of physical chemistry intended to present the subject from its beginning to a point where each particular branch may be pursued by special reading, and there are many references to the advanced literature. The method of historical introduction and rapid progress to modern developments is to be commended. Particularly good is the insistence on mathematical methods as being essential to the higher branches of the subject.

From the point of view of medical study, much in the book is not needed, and all subjects are dealt with in a more advanced manner than is required by the medical student. The subjects of hydrogen ion concentration, "buffer" solutions, adsorption, and colloid chemistry are well treated, but he will be disappointed who seeks in this book for information on organic membranes or on Donnan's membrane equilibrium.

The book is well printed, mathematical symbols are correctly represented, and the figures in the text are clear.

Bacteriology and Pathology for Nurses. By E. I. CLARK, M.B., B.S. (Lond.). Published by Messrs. Faber & Faber, Ltd. *Price* 10*s*. 6*d*.

THIS is a book for which there is a definite need in the library of nursing, and it fills the gap most efficiently. No nursing school

should be without it. For the use of Sisters and senior nurses, and to those working for the Diploma of Nursing and other post-graduate certificates, it should prove most illuminating and helpful. The following are some of the subjects dealt with in a way that nurses with a good background of anatomy and physiology should understand: Bacteria and their Culture, the Principles of Disinfection, Immunity to Disease, and the Pathological Changes found in Common Diseases.

Methods of obtaining specimens for laboratory tests are given, and in many cases the tests themselves in so far as they are of interest to the nurse. It only remains to be said that the illustrations are sufficient, and that the book is to be strongly recommended to all nurses who take their work seriously and wish to understand the changes wrought by disease in the patients whom they nurse.

Common Sense about Sex. By LEONARA EYLES. Published by Messrs. Victor Gollanz, Ltd. 153 pages. *Price* 2*s.* 6*d.*

THIS book is written by one who, as a journalist, has been acting as confessor to many troubled with the problems of sex, and who, in addition, has had some experience of social conditions and is herself married with children. With no pretensions to deep or original thought, the subject is dealt with frankly and clearly, and is relieved from pedantry and prudery by a sense of humour unfortunately rare in most books on sexual or social subjects. The author takes for granted the necessity of such disputed questions as contraception and pre-marital intercourse, trial marriage and divorce, and the general tone is optimistic. To those few who are fortunate enough to have no doubts on these matters for the present comfort and future security of the community, this book will be a comfort and strength; to those many who are still in doubt its hard and didactic style will certainly stimulate thought.

It is a book rather for those who have to advise than for those who actually need advice. To these former, which includes both doctors and nurses, it can be safely recommended.

Organic and Bio-Chemistry. By R. H. PLIMMER. Published by Messrs. Longmans, Ltd. *Price* 21*s.*

THIS book is designed to meet the needs of the medical student, both in his preliminary and his higher studies. Elementary organic and physiological chemistry are treated thoroughly from both the practical and the theoretical side—all of which is expanded by an exposition of the chemistry necessary for the understanding of substances of physiological and pharmacological interest.

From the examination point of view it may be difficult for the student to extract the precise knowledge he requires for his particular syllabus, but it includes a great amount of information on subjects of physiological interest which could otherwise be obtained only by a laborious reading of original papers and monographs.

The latter part of the book contains a description of the investigations of blood, urine, fæces and respiratory exchanges employed clinically.

Thus the book is of value throughout the period of training, and while the standard of chemical knowledge it sets is higher than most of us can attain in the time at our disposal, it is of constant value for reference.

The language throughout is clear and concise. The book is well printed and bound.

Materia Medica and Pharmacology for Nurses. By GWENDOLIN HINDES. Published by Messrs. Faber & Faber, Ltd. *Price* 4*s.*

AS this useful little book is now in its third edition, it requires no introduction to the nursing profession. The classification of drugs is very good, and is practically the same as in previous editions. The new chapter on Sera, Vaccines and Antitoxins should prove to be a useful addition.

It is a pity that Quinidine is not included in the chapter of drugs acting on the heart, and Evipan in the chapter on anæsthetics.

As a book on Pharmacology is essentially a book of reference, it seems to the reviewer that it would be clearer if the matter was arranged in a more tabulated form, with bolder headings.

Surgical Anatomy. By GRANT MASSIE, M.B., M.S., F.R.C.S. Published by Messrs. J. A. Churchill, Ltd. 458 pages with 147 Illustrations. *Price* 18*s.*

THE publication of a second edition of this book so soon after the first speaks for its popularity, and it is too well known in this hospital to need any recommendation from us.

The entire text has been revised and, in addition, there are new sections dealing with injuries of the carpus, infections of the hands, and the surgical approaches of the long bones. Very welcome is a short and clear account of the autonomic system.

The illustrations are clear, especially those devoted to the section on the abdomen.

This book amply fulfils its aim in showing the clinical application of dry anatomical facts, and

should be extremely useful to both students and practitioners in refreshing their memories in an interesting fashion, and not least to those who are revising their Anatomy for surgical examinations.

An Epitome of Obstetrical Diagnosis and Treatment in General Practice. By BETHEL SOLOMONS, M.D., F.R.C.P.I., F.C.O.G. "Pocket Monographs on Practical Medicine" Series. Published by Messrs. John Bale, Sons & Danielsson, Ltd. 138 pages. *Price* 2*s.* 6*d.*

THIS small volume by the Master of the Rotunda, Dublin, is a welcome addition to this excellent series of monographs. The author acknowledges its parentage to the well-known text-book, Tweedy's "Practical Obstetrics," which now bears his own name.

In attempting to compress so much in so small a space, clearness in meaning is occasionally sacrificed and style in exposition is absent. It does, however, present an epitome of the teaching of the Rotunda School, and for that reason will be valuable, especially to those needing a quick refresher or a hurried reminder before examinations.

Diabetes, Reasons and Recipes. By Dr. CLAXTON and LUCY BURACKIN. Published by Messrs. John Lane, Ltd., The Bodley Head. 180 pages. *Price* 5*s.*

What the Diabetic Needs to Know about Diet. By A Certified Dietitian. Published by Messrs. John Bale, Sons & Danielsson, Ltd. 84 pages. *Price* 2*s.*

THE first of these two books follow the wise example set by Dr. Conybeare in "Self-Help for the Diabetic" in educating the patient to deal with his disease in a sensible manner and in enabling to exist on a varied and interesting dietary.

Sponsored by Dr. Graham, the subject matter is clearly and accurately put forward, and the recipes given are many and attractive. The photographs of tomatoes and other articles of diet and the frontispiece of Reggie, aged six, giving his own injections should help to attract the layman, to whom it can be safely recommended.

The second book is not so attractive, but has the advantage of cheapness without sacrificing accuracy or clarity. Its text consists mainly of extracts from the writings of the acknowledged authorities on diabetes, so that it has not the personal drive of the first book.

Demonstration of Physical Signs in Clinical Surgery. By HAMILTON BAILEY, F.R.C.S. Published by Messrs. John Wright & Sons, Ltd., Bristol. Fourth Edition. *Price* 21*s.*

IT is now six years since Mr. Hamilton Bailey first published this extremely valuable book, and in this, the fourth edition, he has carried out further revisions and improved the photographs and illustrations. Our own feeling is that this is one of the most useful books published on Surgery, and that its clear description of how to proceed to examine a surgical case, how to make the most of inspection and palpation, and how to elucidate the various physical signs that may prove diagnostic, make it not only indispensable to the ward clerk, but also a source of real profit to those who are taking the higher surgical examinations. A careful reading and re-reading of this little book will help to bring order and method into the chaotic and floundering way in which we are sometimes apt to approach a patient and his problem.

Sport

Rugby

Guy's v. London Scottish

GUY'S completed the first half of the season with a splendid victory over the London Scottish, when they defeated their opponents at Honor Oak Park on Saturday, December 30th, by 3 placed goals and 2 tries (21 points) to a penalty goal and a try (6 points).

Both sides were well below full strength, but whereas Guy's were fortunate to field their usual three-quarter line, with the exception of Johnson, the Scottish were able to play their normal pack.

The Hospital took the opportunity of introducing D. I. Chapman, the old Whitgift boy, at scrum-half, with J. van A. Steytler as his partner. Considering that this was his first appearance in senior football, Chapman acquitted himself remarkably well; he has a safe pair of hands, and tackled splendidly. He did not attempt to do anything unorthodox, but whenever he received the ball he repeatedly set the threes in action by some well-judged passes to Steytler.

The forwards, lacking the services of Kark, Heberlein, Morgan and Clarke, were not so prominent as usual, but nevertheless they stuck to their opponents, despite the fact that they were

up against a much heavier pack. The Scottish forwards were very good, but they found very little support behind; their back division had numerous opportunities, but they were overshadowed by the Guy's threes, who were at the top of their form and whose defence was more than equal to any attack.

For the first few minutes Guy's found themselves pinned in their own 25, so persistent were the Scottish forwards that they would not allow the ball to get away to their threes. It appeared that they would score at any moment, when suddenly Guy's got the ball back and Giesen and De Gregory broke away on the left wing; the ball was passed inside to Steytler, who, when near the 25 line, cross-kicked for Wright to pick up and race in for a try, which Hogbin converted.

This was just the tonic that Guy's required; after this, they never appeared a beaten side, although at times they had to defend desperately hard.

Dacker, the Scottish left wing, was almost a certain scorer for the visitors when he made a brilliant run with only the full-back to beat, but Alexander covered up and brought off a super-tackle which saved the Hospital line. Ragged play by Guy's and a loose kick by de Gregory enabled Scougill to find touch in the Hospital 25, but Guy's drove them back, through fine forward work by Hogbin, Hale-Munro and Darke, and eventually, following a scrum, Chapman threw out a long pass to Giesen, who went all out for the line; the visitors were penalised for obstruction, but Hogbin missed an easy kick at goal. However, further success for the Hospital was not long delayed, for Steytler sent Alexander away who cut through beautifully and passed to Wright, who again beat all the opposition to score another try in the corner, which was not converted—Hogbin hitting the upright with a kick from the touch-line.

After this reverse, the Scottish attacked furiously and, with Macdonald breaking away on the blind side to the Hospital line, things did not look too comfortable for Guy's, but Alexander relieved the situation after two or three scrums with a clever kick to touch.

The Scottish persisted, and eventually Dacker, accepting a punt ahead, broke away and passed to Neilson, who punted high; Sharp missed the ball completely—however, Hogbin secured, but was caught in possession. From the loose play that followed Haswell snapped up an opportunity and crossed for an unconverted try after "no charge" had been given.

The second half opened sensationally, as within five minutes Guy's added another eight points to their lead, through clever work between Giesen, Alexander and Wright, which resulted in Wright scoring on each occasion, for Hogbin to convert the first of the tries.

After this success, Guy's appeared to rest upon their laurels, and for a time allowed the visitors to have most of the play; on one occasion Dacker only missed by inches converting a penalty goal awarded near the Hospital 25. However, Guy's regained their breath, and another snappy pass by Steytler to Giesen enabled the latter to send Alexander away, who deceived the opposition completely when he gave the dummy beautifully and swerved by the full-back to score a spectacular try, which Hogbin converted by a splendid kick from a difficult angle.

The Hospital did not play so well after this success, and concentrated too much on defence. It was over-eagerness which cost them a penalty, and Dacker kicked a fine goal in the last minute of the game.

Team.—E. C. Sharpe; C. G. Wright, P. C. Alexander, J. E. Giesen, R. M. de Gregory; J. van A. Steytler, D. I. Chapman; C. W. Outred, H. H. Crabb, C. S. Darke, I. G. Robin, R. J. Drummond, T. A. Hale-Monro, R. A. P. Hogbin, D. M. Leeming.

Hockey

The Cup Matches

THE first round of the Inter-Hospitals Cup Matches is on Monday, January 22nd. Guy's are playing the London Hospital, whom we have already beaten 2—1, but the latter were not at full strength. The game is at Walthamstow, and it should be a desperate struggle, in which we shall be glad of any supporters who can get away.

Cheap day tickets and details of access to the ground will be found on the Clubs' Union notice boards.

The Junior Cup team, which this year has a very good record, is stronger than usual, and their match *v.* the winners of the Bart.'s and St. Thomas's match is to be played by February 3rd.

Any supporters who help us to win either of these Cups will be doing the Hospital a service which they need not regret.

Guy's v. Bart.'s

AT Winchmore Hill on Saturday, January 6th, Guy's fielded rather a weak side, and lost by 6 goals to 1. In the early part of the game Guy's were pressing, and nearly scored quite early on, but the forwards persistently tried

to better their position in the circle, and a really hard shot was usually prevented by the Bart.'s defence.

The left wing for Bart.'s was too fast for Hill, and he received a pass from which, after a good run, he scored a goal in the corner of the net. After another attack, a short corner was given against Bart.'s, and Richmond nearly scored, the ball just going wide of the goal. Bart.'s got going from the 25 bully, and their inside right, after a fast individual run, defeated Greene and went on to score. Before helf-time Bart.'s added another, and were three goals up.

Guy's now played up the slope and had quite a fair share of the game. Franklin at left inner seemed to be more effective, and, after running through several people, he managed to score late in the second half, to give the Hospital their only goal.

Bart.'s scored three more goals in the second half, none of which were easy to stop. Smart, who substituted in goal, played well, and made several good saves from hard shots.

A. G. Richmond, who had returned to the side after his injury in November, played a good game with all his characteristic energy.

Team.—J. H. Smart; A. C. Greene, C. A. Boucher; R. C. Hill, A. G. Richmond, A. E. Loden; J. W. Dryland, C. H. Phillips, J. E. Elliott, J. B. Franklin, E. A. Moore.

Guy's v. Woolwich Garrison

ON Wednesday, January 10th, Guy's defeated the Garrison at Woolwich by 4 goals to 3. Although the ground was rather sticky, play was fairly fast, and Guy's started off with some brisk attacks, but the Garrison's defence held out and it was some time before Jelly made a dash through, resulting in a goal for the Hospital which Franklin shot. The Garrison rallied after this, and their inside right soon evened things up with a good shot. Before half-time, however, Jelly scored, followed shortly afterwards by a third from Hill, who was backing up well.

In the second half Guy's lagged sadly, and the Garrison had the better of the game; they worked hard and managed to increase their score by one. However, a run through from mid-field by Richmond ended in his scoring the Hospital's fourth goal as he was falling past the goal post. After this the Garrison attacked repeatedly, and gained another goal before the end.

It was a pity that in a victorious game such as this the standard of the Hospital's play went off so noticeably in the second half, Greene and Loden being about the only members of the team who retained their usual form.

For the Garrison, their left half, who was their captain, played extremely well, and contributed very largely to their three goals.

Team.—H. V. Brown; A. C. Greene, L. C. Thomson; R. C. Hill, R. G. Archer, A. E. Loden; J. W. Dryland, A. G. Richmond (Capt.), C. H. Phillips, J. B. Franklin.

Guy's v. West Herts.

AT Watford, on Saturday, January 13th, Guy's were without Richmond, a previous injury causing him to stand down. This loss was felt particularly keenly in the first half, and the home side, who were slightly stronger than they had been a month previously against us, scored three goals in quick succession. The Hospital were wise not to be unduly perturbed by this, with the result that, after efforts all round, Franklin took a pass near the half-way line and, after individually beating several opponents, including Marshall, the Cambridge University Blue, there was only the goalie left; he ran out, but Franklin coolly dodged him and, with a beautiful flick shot, sent the ball into the net.

This achievement encouraged the Hospital, but, owing to a weakness at full back, and to a class Cambridge Wanderer playing inside left against them, another goal was scored, thus giving West Herts a lead of 4—1 at half-time.

After a change in which Boucher returned to his usual position to help Greene at full-back, the Hospital defence proved better equipped to deal with the opposing forwards. These were well together, and their quick and accurate passing and the way in which they received their passes were almost an education. But, however, several shots at goal went wide in the second half, and, although Brown had an anxious time, he did not have so much to do as in the early part of the game, West Herts only scoring once after the interval.

About ten minutes before the end Guy's made a determined attack, and Jelly passed to Dryland, who went on and scored.

Loden and Hill were conspicuous in the half-back line; the former has gained speed in tackling back, while the latter has improved since last term.

The result was a victory by 5—2 to West Herts, who were undoubtedly the better side, but Guy's gave a very creditable performance, and this, without their captain, was praiseworthy.

Team.—H. V. Brown; A. C. Greene, C. A. Boucher; R. C. Hill, R. G. Archer, A. E. Loden; L. C. Thomson, J. W. Dryland, G. O. Jelly, C. H. Phillips, J. B. Franklin.

Hospital Information, etc.

Notice

GUY'S DENTAL DINNER

The Annual Dinner of the Guy's Hospital Dental Society will be held at the New Criterion Restaurant, Piccadilly, W., on Saturday, March 10th, at 7 for 7.30 p.m.

A Clinical Meeting will be held during the morning and the afternoon of that day, to which all past and present students are invited. Demonstrations will be given by members of the Staff, and cases of clinical interest will be shown.

Further particulars will be circulated to old Guy's men.

F. BOCQUET BULL,
Dental Sub-Dean.

William Gray Testimonial Fund

The following is a further list of contributors :—

E. H. Sears	H. Goulding Rice
Frank Marsh	A. V. Clemmey
C. Moffatt	J. E. Clarke
E. J. Clarke	R. W. Cunningham
R. L. Frost	H. C. Godding

ACCOUNTS

RECEIPTS

	£	s.	d.
Contributions received	316	14	6
	£316	14	6

EXPENDITURE

	£	s.	d.
Expenses, postage, etc.	8	15	11
Payments to William Gray	307	18	7
	£316	14	6

Audited and found correct,

C. G. Baker.
C. E. Riddiough Wood.

Pass List

UNIVERSITY OF LONDON.
M.D. EXAMINATION.
December, 1933.
BRANCH I.
Medicine.

F. E. Camps — N. S. Plummer
C. H. Rogerson

BRANCH I.
Hygiene.
C. M. Ockwell.

ROYAL COLLEGE OF SURGEONS.
L.D.S.
FINAL EXAMINATION.
November, 1933.
PART I.
Surgery.

C. I. Haggar	R. V. Hooper
F. C. Dutton	H. L. P. Coetzer
J. M. Alexander	C. M. Beales
H. C. Davis	H. C. French
D. A. G. Greensted	A. G. Heberlein
R. L. V. Henderson	W. B. Hubbard
W. S. Kendrick	D. F. Malt
W. E. Nelson	F. A. Rogers
K. L. Scott	J. L. Thompson
H. C. A. Weighell	

PART II.
Dental Surgery.

H. R. P. Arnett	H. Burch
F. J. S. Copley	W. V. A. Denney
E. O. Clough	W. G. C. Dimock
J. H. G. Fenson	E. T. Freeman
A. R. Gillies	N. E. Gillham
A. Gorton	L. B. Holmes
C. H. James	E. C. Jenet
E. H. Musgrove	C. G. O. Nevard
A. Pryor	G. J. Rubie
D. H. T. M. Robertson-Ritchie	J. A. G. Starnes
F. Stevens	C. V. F. Thomas
J. H. Thompson	S. N. Tinkler
J. E. W. Whitling	

UNIVERSITY OF LONDON.
FIRST EXAMINATION FOR MEDICAL DEGREES.
December, 1933.
E. R. Hodgson Todd.

SOCIETY OF APOTHECARIES OF LONDON.
PRE-MEDICAL AND PRIMARY EXAMINATIONS.
January, 1934.
Anatomy.
E. R. Brown.
Physiology.
E. R. Brown.

Papers by Guy's Men

A. H. Douthwaite. Diet in rheumatic disease. *Practitioner*, 1934, cxxxii, 65.

Change of Address

N. L. Eckhoff, M.S., F.R.C.S., 20, Harley Street, W.1. *Langham* 4032. (Residence unchanged.)

EDS. { C. G. B. / G. L. B. T.

GUY'S HOSPITAL GAZETTE

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PASSIM

THE vacancy caused by the death of the late Professor Donaldson is at last to be filled, for the Senate of the University of London have appointed Dr. G. P. Wright to the Sir William Dunn Chair of Pathology at Guy's.

Dr. Wright, who is 35, was a student at University College Hospital, where since 1931 he has been Assistant Lecturer in Morbid Anatomy and Pathologist. He was a scholar of Exeter College, Oxford, and from 1921 to 1923 was tutor in Physiology at Jesus College, Oxford. In 1923 he was awarded the Filliter Exhibition in Pathology at University College Hospital Medical School, and in 1924 became MacGregor Scholar in Histology at University College. In 1925 he held a Rockefeller Travelling Scholarship and did research at Washington College, St. Louis, U.S.A. From 1926 to 1928 he was Graham Scholar in Pathology in London University, and then returned to the States as Research Fellow and Tutor at Harvard until 1931, when he returned to University College Hospital, whence he comes to Guy's.

This is a brilliant career, and we heartily welcome him to Guy's to fill the all-important post of Pathologist, which is the essential link between the pure and applied sciences in the Hospital.

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How often have moans of the sad plight of those condemned to exist in the College served to fill this exacting space! Nevertheless, we feel that the recent silting up of the pipes and the consequent complete failure of the hot-water system justifies more than the habitual grumble, and almost justified the stream of blasphemy that rent the air, from earliest R.O. to latest H.P., during the length of that first sad morning. Unless content to match the mediæval squalor of their surroundings with unwashed bodies or emulate the lesser-bearded highbrows of Bloomsbury with unshaven faces, the Residents are forced to seek the hospitality of the wards or dare the heights of the Surgeons' Room.

It was hoped that there would be feverish activity on the part of the Works Department to remedy the defect over the week-end, but actually the amount of zeal shown was only equalled by that of the Residents themselves after the Ball.

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ONE has heard nothing but good words for the Residents' Ball, held this year at the Grosvenor House on Friday, 26th January. Although there were just over 300 present, there was plenty of room, and all the arrangements were excellent, for which thanks and credit are due to Mr. G. A. Miller and the Dance Committee. The Keech-Rosebery Band was deservedly popular, and even if the dancing was at times boisterous and congested, it was always a joy to find that every collision was with a friend, for there are no strangers at a Residents' Ball; only those who have once been realise how infectious these are, and this one was certainly well above the average.

The President of the Residents wishes to thank all those who have been kind enough to send cheques to defray the necessarily high expenses of the Play.

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THE Dance held by the Guy's Hospital Employees' Association in the Pillar Hall at the Cannon Street Restaurant on Saturday, 27th January, was a great success, and the large number who attended seemed to enjoy themselves thoroughly. There were numerous prizes, and the old-fashioned dances were very popular items. Great credit is due to Mr. Mottram and Mr. Pascoe for organising the Dance.

Farewell Dinner to Mr. Turner

ON Friday, January 19th, at the Criterion Restaurant, a selected company of past and present Guy's men met at dinner to pay their respects to Mr. Philip Turner on his retirement from the Surgical Staff to join the Consultant Staff. These included former Assistant House Surgeons and House Surgeons and present members of the Staff.

Although the occasion was in a way a sad one, the dinner was most cheering, for "Philip" himself was in his inimitably fine form, and his obvious enjoyment at meeting so many friends was the criterion of a successful dinner.

The only toast of the evening, after the King, was proposed by Dr. Hurst, who gave a vivid sketch of Mr. Turner in his younger days which would surprise many who do not know him so well, and ascribed much of his success as a surgeon to the fact that he was once a medical registrar. The toast was seconded by Mr. Slesinger. Mr. Turner's reply was delightful for the nimble manner in which he brushed aside any suggestion of a wild youth, for the amusing stories of his life at Guy's from student to surgeon, but, above all, for his pride and happiness in having been able to serve the Hospital for so long.

Other speakers were Dr. Seymour Price, his first Assistant House Surgeon; Mr. Trethowan, John Howell and R. V. Payne, his last House Surgeon.

When the dinner had formally ended, the most enjoyable part of the evening was to hear "Philip" entertaining the group that quickly gathered round him with one after another of his characteristic stories.

Those present were: Dr. Hurst, Dr. Witts, Dr. Marshall, Mr. Eckhoff, Mr. Cook, Mr. Gibberd, Mr. Slesinger, Dr. Poulton, Mr. Trethowan, Dr. Lindsey Locke, Dr. Conybeare, Mr. Doherty, Dr. Scott, Mr. Ogilvie, Mr. Northfield, Mr. Brock, Mr. Reading, Mr. Ferguson, Dr. Seymour Price (A.H.S., 1908), Dr. P. Barwell (A.H.S., 1914), Dr. R. Hearn (A.H.S., 1919), Dr. E. Gray (A.H.S., 1920), Dr. Forman (A.H.S., 1923), Dr. Grasby (H.S., 1927), Dr. Jarman (H.S., 1928), John Howell (H.S., 1932), K. J. Gilchrist (H.S., 1933), R. V. Payne (H.S., 1933), T. A. Hale-Munro and C. G. Baker.

The following had hoped to be present and sent their apologies and good wishes: Dr. John Fawcett, Mr. McNair, Mr. Layton, Dr. Ozanne, Dr. Douthwaite, Mr. Eason, Dr. E. Lashmore, Dr. J. L. Percival, Dr. G. H. Pitt, Dr. R. Hale-White, Dr. Watt, Mr. Bromley, Dr. Ryle, Dr. Hampson and Sir Francis Shipway.

Thanks and congratulations are due to Mr. R. V. Payne for assembling and arranging such an excellent evening.

Disproportion

A Clinical Lecture delivered at Guy's Hospital by Frank Cook, Esq., B.Sc., F.R.C.S.

GENTLEMEN,—From the nature of my trade or calling you will have gathered that the title of this lecture refers essentially to Disproportion in the obstetric sense of the term. Thus interpreted, Disproportion presents a comparatively simple mathematical proposition. For all practical purposes it implies that the fœtal head is, or is likely to become, too large at term to pass through the maternal pelvic channel. It ought to be obvious to a moderate intelligence that there are only four possible ways of dealing with this situation. One is to remove the fœtus from above the pelvis by means of Cæsarean Section; another is to induce labour before the fœtus has become too large to pass through the pelvis. Otherwise the size of the fœtal head must be reduced by moulding or by crushing, or the pelvis itself may be enlarged. I shall presently discuss the relative merits of these procedures in actual practice. In the past, great attention was paid in obstetrical treatises to the various sizes and shapes of the maternal pelvis, and minute variations were described at length. This aspect of the problem is still of consequence, but we are not inclined to concentrate more particularly upon the *relative* sizes of the fœtal head and pelvic brim or outlet. It is more important to know whether a particular head will pass through the corresponding brim

than it is merely to obtain an exact estimate of the pelvic diameters, since heads are as variable in size as pelves. We have to remember that until comparatively recent years Cæsarean Section was a formidable operation attended by a considerable risk, and this consideration quite rightly placed the method of " trial labour " out of court in earlier days.

The mechanical conception of disproportion is simple enough. But when it is associated with that mental disproportion which seems inevitably to attend upon the process of childbirth, more particularly in private practice, we are all too frequently faced with difficult and dangerous situations, and these in turn may culminate in tragedy. I suppose it is natural that those more or less immediately concerned should tend to lose their sense of values and to become unduly excited as the advent of the child draws nigh, and again when labour is actually in progress. On the other hand, you will learn, if you have not already learnt, that most people and many doctors are incredibly foolish and selfish when faced with medical problems. The sooner you cease to expect reason of your public, the better for your peace of mind. They simply cannot appreciate the supreme importance of that intelligent anticipation and judgment which are so essential in obstetric affairs. Time and again you will be called in too late to eliminate risks that could have been obviated with deliberate ease; and in spite of this you will be expected to deliver the baby before you have had time to examine the mother.

Obstetric disproportion complicated by mental disproportion, amounting at times to sheer idiocy, is undoubtedly responsible for a high proportion of the maternal and fœtal deaths and disorders of the present day. It seems to me that this state of affairs is partly due to faulty teaching and partly to the general hysteria of the age. Senior medical students, who are supposed to have undergone a course of general and scientific education at an earlier stage of their career, are still expected to observe and record series of more or less irrelevant details without being encouraged to form essential judgments. The art of inductive reasoning is neglected in the rush and struggle for those cursed " Final " examinations. Some experience as an Examiner in Midwifery has taught me that quite intelligent and well-informed men and women, who may be let loose as qualified doctors on the morrow, are entirely unable—or shall I say untrained ?—to grasp essentials. When a candidate is asked to examine a pregnant woman at or near term he will presently return with a series of disconnected data. He may have taken the pelvic measurements to the fourth place of decimals, but when I ask him the vital question, " Will that particular fœtal head go through that particular pelvic brim ? " he will either confess that he has neglected to make this all-important observation, or he will murmur something about that blessed word " overlap." If only I were satisfied that he had attempted to assess this relative measurement, and if only he would say, " I don't know," he would get good marks—at any rate from me. And in after-life, should he engage in the practice of Midwifery, he will save lives, since the candid admission that he does not know implies that in this particular connection he will prepare for the worst, whilst hoping for the best.

I use the term " hysteria " in the popular sense. In anxious times the world expects magic, and the people *talk*. The more pseudo-scientific jargon they produce the more do they demand the wand of the witch-doctor and the more do they need firm handling. Talk never cured anyone except psycho-neurotics, and even that is doubtful. On the other hand talk is the greatest enemy of observation, judgment and considered action, and these alone can solve our vital problems. In the course of critical obstetric events we are rarely offered the opportunity to form a deliberate judgment. Before we have time to wash our hands, everyone shouts : " What are you going to do ? " In surgical practice, rapid judgment, as opposed to self-conscious analyses and ponderous expositions, is frequently essential; it may mean life or death. But in the practice of obstetrics *rapid* judgment is rarely indicated, and we must not allow ourselves to be stampeded by mothers-in-law, lay midwives, or by impatient members of our own profession. Reason affords no protection against these vampires. In defence of your patient, and in your own defence, you must apply the iron hand of personality, gloved, if need be, by the semblance of a sweet or blatant reasonableness. That we must be strictly scientific and rational in our technical procedures and that we must afterwards expound hot air to friends and relations is one of the distressing paradoxes of our job. It is forced upon us. To deviate by the fraction of an inch in surgery or by a decimal place in biochemistry or bacteriology may lead directly or indirectly to disaster. This fact ought to be evident enough to any educated individual, but I can assure you that the imagination of our public almost invariably fails in times of anxiety. So you must assert your personality on these occasions—not necessarily by shouting, and certainly not by arguing.

I have inflicted all this rigmarole upon you for a very definite reason. It is most important for you to realise that the practice of midwifery at Guy's Hospital and on our District is comparatively straightforward, and the treatment of disproportion presents no insuperable difficulties. These conditions do not obtain elsewhere. At Guy's we have continuity of service; abnormal and border-line cases can be admitted to hospital for confinement, without undue fuss, and without those never-ending financial discussions of to-day; we have no mischievous competition, since our patients are so poor; above all, it is our privilege to deal with a section of the population that has implicit faith in an institution upon which they have learned to rely for 200 years, and therefore they have confidence in you and in me. Moreover, the women of the Borough have a peculiarly healthy mental outlook. They do not persist in arguing against their own interests like so many of their sisters elsewhere. And they are of good physical stock. If all women could and would copy their example, our lives would be more or less bearable, and there would be far fewer deaths and disabilities from disproportion.

To turn to more material factors, we have to recognise that the physical health of our Borough people is also comparatively good. There is very little rickets, and therefore we rarely meet with "flat" pelves in this neighbourhood. In certain of the large towns in the North of England, and particularly in Glasgow, the incidence of flat pelves is high, and the treatment of disproportion is a much more serious affair on that account alone. We find at our Ante-Natal Clinic a considerable number of pelves of the "generally contracted" type. We also find a few pelves of the "funnel-shaped" variety, in which the *outlet* is contracted. The incidence of this latter form of pelvic contraction is not high in our part of the world, and I only mention the condition as it presents a particular problem in the way of treatment. There is a further type of pelvic contraction to which I should like to call your attention, as it is not generally recognised. One has termed it "secondary" pelvic contraction.* It occurs from time to time in women who have previously given birth to a number of children without considerable difficulty. It is due to a post-partum subluxation of the sacro-iliac joints resulting in a narrowing of the antero-posterior diameter of the pelvic brim. It is important to recognise this type, although it is uncommon. The previous history of spontaneous delivery is disarming, and therefore it may be that serious obstruction is not diagnosed until labour is very far advanced.

Now, with regard to the estimation and anticipation of disproportion, let me first warn you not to place too great a reliance upon external pelvic measurements. They can be most deceptive, and the pelvimeter can be a dangerous weapon in the hands of those of little knowledge. I always mistrust the type of man who is inclined to take his pelvic measurements in millimeters. In the first place we encounter from time to time a serious degree of pelvic contraction in cases where the external measurements are perfectly normal. Secondly, we have to remember that the fœtal head is a variable factor. It has been well said that the fœtal head is the best pelvimeter. However, the external pelvic measurements afford a very useful guide, provided these limitations are kept in mind. The pelvimeter is particularly helpful in dealing with large numbers of cases, as it indicates the more obvious abnormalities, and it may warn us to pay special attention to certain individuals. Some examiners lay great stress upon the *external conjugate*; on that account I advise you to make yourselves as expert as possible in its measurements. Personally, I believe its value to be extremely doubtful, and indeed it may be seriously misleading. It is not an easy measurement to estimate exactly, and the margin of error is high. When you consider that it is our object to deduce from this measurement that of the true conjugate, in which a variation of half an inch may be all-important, you will appreciate my point of view. The estimation of the *diagonal* conjugate is more definite and satisfactory. The great disadvantage of this procedure is that it may cause unnecessary pain and discomfort to a number of women, particularly primigravidæ. On this account it should be reserved for special cases; as a routine observation it is somewhat objectionable.

Above all, we must never forget that the *relative* measurement affords the real criterion. Will the fœtal head go into the pelvic brim, if it is not already engaged? The absolute measurements of the pelvis merely represent half the story. It is still taught that in a normal primigravida the fœtal head spontaneously enters the pelvic cavity two or three weeks before term. Those of you who have examined any considerable number of cases at the Ante-Natal Clinic will realise that this happy state of affairs fails to obtain in a large proportion of cases, even though subsequent events prove them to be normal. In all these cases we have to determine whether the fœtal head will enter the pelvic brim on pressure. This observation demands considerable skill and ex-

* *Vide* Brooke, R., and Cook, F.—*Guy's Hospital Reports*, 1926, lxxvi, 467.

perience, but there is a common-sense safeguard to which I shall presently refer. Personally, I do not think that there is much advantage to be gained by the use of an anæsthetic or by some of those engaging methods which look so well in the diagrams. And for heavens' sake do not hypnotise yourselves with that blessed word " overlap." It is as bad as " toxæmia " and " essential hypertension " ; they all sound fine and mean very little. In order to determine whether the fœtal head will enter the pelvic brim, bear in mind the plane of the brim, and attempt to push the head backwards and downwards at right angles to that plane. Do not expect the head to pop right through the brim on pressure. In the case of a head that will enter the brim when subjected to the natural forces, you will derive the impression of attempting to force a solid ball through a rigid ring that is slightly greater in circumference but well lined with rubber. If you do not get the feeling of " give," a sort of buffered or cushioned impression as opposed to an unyielding contact, you are not justified in saying that the head will go through. The greater your experience and the greater your skill in palpation, the higher will be the proportion of cases in which you can give an accurate forecast. But the great safeguard is this : unless you feel certain that the head *will* enter the brim, do *admit that you do not know*, and do classify for practical purposes these doubtful cases with those in which you believe the head will *not* enter. Any man, however experienced, who says that he can make an accurate forecast in *every* case is a liar and a very dangerous fellow.

In view of my remarks on " secondary " pelvic contraction it will be obvious that we ought not to confine our determination of the relative measurements to primigravidæ. I am afraid we are apt to be less careful in cases where there is a good history of previous confinements ; and, indeed, such a history is of far greater value than the estimation of external pelvic measurements alone, particularly when the babies have been comparatively large and spontaneously delivered. But, strictly speaking, the observation should be made in every case, and it should be amplified by a determination of the diagonal conjugate if necessary.

It is obvious that we cannot test the size of the *outlet* by means of the fœtal head in the course of an ante-natal examination. Pelvimeters have been devised for the measurement of the pelvic outlet, but these are not particularly satisfactory, and in practice the closed fist is the better form of pelvimeter in so far as the outlet is concerned. This observation demands personal experience, as our fists are variable in size.

If you are unable to satisfy yourself that the fœtal head will enter the pelvic brim on pressure, or if you are doubtful, you must arrange for the admission of that patient to a hospital or to a nursing home for her confinement, as a Cæsarean Section *may* prove necessary. As events show, a very small proportion of these cases actually do require Cæsarean Section. In the course of labour the most unlikely heads enter the most unlikely pelves without apparent difficulty, particularly when the mother is young. But beforehand it is impossible to determine which of them will oblige and which will not. And do remember that our aim in deliberate midwifery is 100 per cent., for mother and for child.

If on examination you are satisfied that the head *will* engage, all well and good. But unless the head has already actually engaged, and if you propose to leave the woman at home, you must keep an eye on her. Otherwise several complicating factors may arise pending the onset of labour that may determine disproportion. An anterior position of the fœtus may become posterior, and, as you know, a posterior position is frequently accompanied by incomplete flexion, whereby the engaging diameters of the head are increased in size. On the other hand, the pregnancy may continue over term ; it is perfectly obvious that a growing fœtal head that will enter the pelvic brim at the 40th week of pregnancy may be obstructed two or three weeks later. One of the commonest combinations to occasion anxiety and difficulty in labour is not given sufficient prominence as such in the obstetrical text-books. This is an association of post-maturity, a posterior position, inertia, and a minor degree of disproportion.

The rational treatment of disproportion is either by means of a " trial labour " or by the induction of labour before the fœtal head has grown too large to enter the pelvis. If you have found evidence of pelvic contraction early in pregnancy the question of induction will arise. It is impossible to determine beforehand, as we are so often asked to do, at what stage of late pregnancy the operation of induction should be performed. We have not the faintest idea as to what extent the fœtus is going to grow ; it may weigh 5 lb. or it may weigh 10 lb. at term. When ought we to induce ? Nowadays, and with modern methods available, it is not considered fair on the baby to induce labour before the 36th week. If the degree of disproportion is so marked as to require induction earlier than this, it is better to aim at a trial labour, and Cæsarean Section at term if necessary. With this reservation, and with the possibility of induction in view, we should examine our patient carefully each week from the

35th week onwards. When the head for the first time fails to enter the brim on pressure, that is the time to induce, provided we are certain that it would enter the brim on the previous examination a week before. We are justified in assuming that the head will mould sufficiently for one week's growth. Thus, if the head will enter at the 36th week, but not at the 37th, we must then induce without delay. But it is quite wrong to arrange weeks before hand to induce at the 37th or any other week.

If the patient does not present herself for examination until she has reached a stage of pregnancy at which we are unable to satisfy ourselves that the head will engage, we must on no account induce labour—at any rate, by instrumental methods. Under these conditions we have no guarantee whatever that the head would engage a week earlier—or for that matter a month earlier. It is therefore possible that the induced labour will result in obstructed labour. To perform a Cæsarean Section upon a patient who has had foreign bodies introduced into her uterus is to embark upon one of the most dangerous operations in midwifery. And this may be the only alternative to craniotomy in cases where the time of induction has been grossly miscalculated. These observations do not apply to "medical" induction, since medical induction can obviously introduce no considerable infection. The only trouble about medical induction is its unreliability; on that account it is practically useless for a timed induction. But there is no objection whatever to medical induction when we are prepared for a trial labour and Cæsarean Section if indicated thereby. You are all familiar with the quinine and castor oil method. It is a little primitive, but it is the best we have available up to date. There is only one point in this direction to which I would call your attention: apparently you can obtain the optimum quinine effect by a dosage of 10 grains every two hours, up to three doses—30 grains in all. There is no practical point in persisting beyond this, probably to the discomfort of the patient. Unfortunately, we have not hitherto been able to induce labour by any combinations of pituitary and ovarian extracts, however large the dosage. A safe and certain method of medical induction would be a god-send, and it would revolutionise the practice of midwifery. Stemons advocates the induction of labour by means of a combination of therapeutic measures, castor oil and quinine, rupture of the membranes, and posterior pituitary extract, which he applies by the intranasal route.

I have only one or two remarks to make with regard to instrumental induction. Mere rupture of the membranes does not appeal to me. In the first place, had it proved effective and satisfactory, it would have been the routine procedure for thousands of years. Secondly, one cannot believe that the withdrawal of the amniotic fluid can be good for the baby. You know how concerned we are to learn that the "waters have broken" some time before the onset of labour, or at the outset thereof, particularly in a primigravida. Moreover, one cannot but feel that the withdrawal of the amniotic fluid must interfere with the mechanics of labour. The introduction of an animal bladder filled with glycerine, which was introduced into this country by Mr. Gibberd, presents certain advantages; labour usually commences after a much shorter interval than obtains after the introduction of bougies or stomach tube. And however carefully you explain to the patient and her friends that the time of onset of labour does *not* correspond to that of the induction, they *will* persist in disregarding your warning, and they will pester you accordingly. The only real objection to the pig's bladder method of induction is that it pushes the fœtal head away from the brim, and on that account it may determine a faulty presentation; there is also the possibility of a prolapsed cord. With regard to the introduction of bougies or stomach tube, I have one tip to give you. Before their actual insertion, and when you have taken proper antiseptic precautions, grasp the cervix with ring forceps, pass a finger through the cervical canal and sweep it around, separating the membranes as widely as possible from the uterine wall. As a matter of experience this procedure is found to accelerate the onset of labour.

With regard to "trial labour," there are several conceptions. I would first point out that the method of trial labour was in common practice at Guy's Hospital long before it was boosted elsewhere. In fact, there was a time when we were considered somewhat casual and immoral on that account. If you happen to have common sense, you will generally be considered casual and immoral! To some of the older obstetricians the long way and the difficult way was always the proper procedure. I should like to pay a tribute to Mr. Chapple, who was at one time criticised for introducing a good deal of fresh air in this particular direction. Happily, he, and the practice of obstetrics, appear to have outlived that phase. Difficult and laborious pursuits may be good for the soul, but as a rule they represent bad surgery. Trial labour is a common-sense procedure. Let us take ten cases of potential disproportion, in any one of which obstructed labour may result. Before labour has been in progress we are unable in doubtful cases to determine those in which

spontaneous delivery will eventuate. And it is well to admit this. Let us say, as a matter of experience, that spontaneous delivery will occur in nine of the ten doubtful cases of disproportion. Beforehand, let us frankly admit that we do not know which particular nine out of the ten will be thus favoured. There are three courses open to us. We can either perform ten Cæsarean Sections before the onset of labour, or we can induce labour in all ten cases (provided we get them in time), or we can " wait and see." If we adopt the first of these procedures, we have to reflect that we have performed nine unnecessary Cæsarean Sections. And, although there are some surgeons who advocate this drastic line of treatment, do let me remind you that the maternal mortality after Cæsarean Section is at least 1 per cent., even under the very best conditions. If we adopt the second procedure, that of induction, we shall have performed nine unnecessary inductions, with the attendant disadvantages thereof. Trial labour implies the very healthy admission that Nature succeeds again and again when we have, to the best of our ability, anticipated failure.

In a real trial, labour is allowed to proceed well into the second stage, and a Cæsarean Section is performed only when the natural forces have failed after every opportunity has been given. Nowadays it is usual to apply the lower-segment operation under these conditions, as it lessens the risk of peritoneal infection. Personally, I am convinced that there must be a considerable risk, in spite of the lower segment operation, in cases where the cervix is fully dilated and the membranes have been ruptured for some considerable length of time. Mr. Gibberd assures me that the results of the lower segment operation at a late stage of labour have been singularly happy at Guy's, and that they compare favourably with the results of Cæsarean Section in general. Nevertheless, I cannot convince myself that it is a method of choice. Medical statistics can be misleading and dangerous, unless they embrace a very large number of cases; there are so many variable factors involved in each individual case. Of course, we may encounter the patient for the first time when she is in a late stage of obstructed labour. Then we have to take a risk; it is not our fault, as we have not previously had an opportunity of obviating the obstruction. But that is another matter. Let us remember that, as recently as eight or nine years ago, it was considered almost criminal to perform a Cæsarean Section, as an alternative to craniotomy, in cases of obstructed labour where the cervix was dilated and the membranes ruptured. I well remember that about this time I had a sword held over my own head on this account for several days, although, fortunately, that particular patient recovered.

It seems to me that a *modified trial* minimises risks and represents sound practice. By that I mean that we should allow labour to proceed for a few hours only, the length of time depending upon the strength of the " pains." If the head fails to engage, a Cæsarean Section is performed before the cervix is considerably dilated, and before the membranes have ruptured. Admittedly, this line of procedure implies that a certain number of Cæsarean Sections are performed in cases where the head would ultimately have moulded through. But these represent a small proportion of the whole, for it is well known that in the large majority of cases of potential disproportion the fœtal head will enter the pelvic brim at an early stage of labour. It is a vastly different line of action from that of applying Cæsarean Section shortly before term, whenever the head is not engaged or cannot be made to engage. On the other hand, the risk of infection after a modified trial is no higher than that which attends a Cæsarean Section performed before the onset of labour—it is practically negligible.

Time will not allow me to discuss fully the treatment of obstructed labour due to disproportion. For that I must refer you to the text-books, but there are one or two points of importance to consider. When we are called upon to treat a case of established obstruction *in medias res*, we have to consider the relative risks of various procedures. It is no good regretting sins of omission on the part of others, although, for our own protection, it ought to be made clear, as tactfully as possible, that the essential onus is not ours. If you are too altruistic in this direction, you will find that it is a case of heads you lose, tails the other man wins. Such is life; some people have the happy knack of getting away with it. However, our main duty concerns the patient and her child, whatever has befallen and whatever may befall.

We have now a sufficient experience of lower segment Cæsarean Section to recognise that it represents a very great advance in the treatment of obstructed labour due to disproportion. It is rather more difficult than the classical operation, but there is not the slightest doubt that it lessens very considerably the risk of serious infection. On the other hand, I would go so far as to say that most of us, in London at any rate, are or have become so unaccustomed to the performance of craniotomy that this procedure is more dangerous than Cæsarean Section under adverse conditions. In any case craniotomy is a bloody business, parti-

cularly when the unfortunate child happens to be alive. If the child is already dead, we are naturally loath to incur any additional risk that Cæsarean Section may impose. In this event craniotomy is obviously the proper procedure, in spite of its difficulties. A Glasgow obstetrician, for whom I have the utmost respect, tells me that he once performed a craniotomy in four minutes. I am afraid we are not so expert! The only advice I have to give you with regard to craniotomy is this: do not waste too much time in attempting "high" forceps delivery when craniotomy is in the offing. The poor woman is already exhausted by the strain of a long labour, and the operation of craniotomy, as usually performed, is liable to inflict a severe shock; so do not add to her troubles by an undue prolongation of intermediate measures, which may be doomed to failure, however well-intentioned. Never allow your absorption in mechanical procedures to detract your attention from the essential welfare of the patient herself. "High" forceps delivery is a gamble, and it represents a confession of failure and of miscalculation, on your part or on that of others. When there has been previous miscalculation and when facilities for Cæsarean Section are not available, you must be prepared to attempt "high" forceps delivery, however unwillingly. Incidentally, I may mention that I have never been so fortunate as to derive any appreciable advantage from the adoption of the Walcher position in attempting "high" forceps delivery via flat pelves. When there is obstruction at the pelvic outlet, discovered at a very late stage of labour, the risks of Cæsarean Section are obviously high. Failing other measures, it is in this condition that symphysiotomy and pubiotomy are indicated—at any rate theoretically. I myself have neither performed nor even seen either of these operations. That is possibly due to the fact that in this part of the world we rarely meet with cases in which the outlet alone is seriously contracted. The operations of symphysiotomy and pubiotomy do not increase to any considerable degree the size of the pelvic brim, since the true conjugate is not affected. They do, however, permit of some separation of the tuberosities of the ischium whereby the transverse diameter of the outlet is enlarged.

Finally, gentlemen, do let me impress upon you once more that our aim in midwifery is 100 per cent. The unforeseen may mar our results, but never for one moment should we deviate from our objective. I always contend that a really good *surgeon* should have some experience of gambling, since he is frequently called upon to weigh up the odds "in running," but an *obstetrician*, given a square deal, choice of conditions and every opportunity to exercise his judgment, should invariably play for a certainty.

The Physical Society

A CLINICAL and Pathological meeting was held in the Massage Department and College Smoking Room on Thursday evening, January 18th, with Mr. S. H. Wass in the Chair. The attendance was small, owing to the unavoidable absence of the Residents, but the meeting did not lack intelligence and the discussion of the cases was excellent.

Mr. P. A. WILKINSON showed a case of complete sensory and motor aphasia of sudden onset in a man of 41 years. There was a history of trauma to the left parietal region two weeks before the onset of the aphasia, and several weeks later of a clonic fit. On examination there were no other abnormal physical signs in the C.N.S. and no signs of increased intracranial tension; there was a slight degree of mitral stenosis. Mr. Ferguson inquired about the W.R. and C.S.F., and was assured that the former was negative and the latter entirely normal and not under increased pressure. He wondered if the mitral stenosis had been floated as a red herring to trap the unwary student of medicine. Dr. E. T. Conybeare also thought the cardiac lesion was a red herring, for he had examined the case carefully and had noted the absence of fibrillation and had only detected the slightest degree of mitral stenosis. He also excluded infective endocarditis, but, being struck by the sudden onset of the aphasia, thought the lesion must be vascular and postulated hæmorrhage from a congenital cerebral aneurysm or hæmorrhage into a tumour as the underlying pathology. Mr. Jacoby thought that, with a history of trauma, pachymeningitis interna hæmorrhagica over the left parietal region would account for the sudden onset of aphasia after a latent interval of two weeks. Mr. Spink was horrified at this idea. He did not consider the lesion to be subdural and diffuse, but subcortical and strictly localised, just behind the Rolandic fissure; apparently a neurological registrar of wide experience agreed with his localisation, too. With regard to pathology, he considered a rapidly growing gliosarcoma and one other condition—which, after collecting his thoughts, he remembered

was called delayed traumatic apoplexy. Mr. Robin had heard of an exactly similar case which was due to subarachnoid rupture of a congenital aneurysm, but he was assured that the C.S.F. excluded that in the present case. Mr. Wilkinson then asserted that he was far too honest to float the mitral stenosis as a red herring, but was relieved that Dr. Conybeare had shared his difficulty in hearing the cardiac murmurs. He brought the discussion to an end with the reassuring statement that even greater minds than ours were not definite about the pathology of the case.

Mr. N. M. JACOBY showed a case of a woman of 29 with bilateral swelling of all the salivary glands associated with some slight lymphatic glandular enlargement, a palpable spleen and a blood picture of agranulocytosis. The total white count was 1,770 cells per c.mm., of which only 3 per cent. were granulocytes; there were no immature cells present and there was no anæmia. The throat was normal, but for the past four years the patient had suffered from widespread rheumatoid arthritis. Mr. Spink inquired if the blood sedimentation rate had been done, but Mr. Jacoby knew that it was bound to be raised because the patient had a cold. Dr. E. T. Conybeare was the only person with any ideas at all on this case, and even he admitted to being unable to make a diagnosis. He knew the case was not one of aleukæmic leukæmia, and his experience in the States told him it could not be Mickulicz's disease. He suggested a tentative diagnosis of depression of the granulopioetic function of the bone-morrow from the long-continued toxæmia of the rheumatoid arthritis, with a superadded virus infection to account for the glandular enlargements. Being unable to think for themselves, the members were content to accept this and resolved to do better with the next case.

Mr. J. C. HENRY showed a case of a man of 21 with enormous enlargement of the left leg, from foot to groin, which he demonstrated to be due to lymphatic œdema. All investigations on the case were negative, but there was a history of what appeared to be a cellulitis of the leg nine years ago. Mr. Henry comforted the meeting from the start with the news that even the examiners at the Royal College were not certain of the diagnosis. Mr. Clarkson inquired if filaria Bancrofti had been found in the blood at night, but Mr. Henry assured him that nocturnal hæmatology was quite unwarranted, since the man had never been to the tropics. Mr. Ferguson thought the diagnosis was one of previous streptococcal lymphangitis causing blockage of the lymphatics and wondered whether Kondolean's operation would be curative. Mr. Robin had seen a similar case which had turned out to be due to a deep femoral thrombosis, but Mr. Ogle and Mr. Jacoby decided once and for all that the œdema was lymphatic and not venous. In conclusion, Dr. E. T. Conybeare, not being a surgeon, agreed with the majority about the diagnosis, but took the Chairman to task for calling the case one of elephantiasis; he thought the leg was not in the least like that of an elephant, and preferred the simple term of lymphœdema.

Mr. D. N. LEEMING showed the case of a stoker with an enlarged liver and spleen, ascites, but no jaundice, who admitted to the modest consumption of two bottles of whiskey a day for the past 15 years. The blood and gastric investigations were normal and the W.R. was negative on three occasions. Mr. Bookless thought that if the case was one of alcoholic cirrhosis the liver should be small rather than large after 15 years, but he admonished himself for not percussing the upper border, so that he did not really know whether he was dealing with a large or a small liver. Mr. Jacoby thought the man had a low-grade peritonitis. Mr. Ferguson turned himself into a physician and upheld the diagnosis of alcoholic cirrhosis, but he regarded the tattoo marks as more reliable than the blood serology and thought the W.R. should be repeated a fourth time. Dr. E. T. Conybeare pointed out that the people who get alcoholic cirrhosis are those who have an alcoholic gastritis, of which there was no evidence in this case. He then completely silenced all members by explaining all the signs and symptoms on the basis of an alcoholic phlebitis (with thrombosis) of the portal and splenic veins, to which was added a low-grade peritonitis.

Mr. J. E. DARLOW showed the case of a girl of 18 with Bazin's disease, acne scrofulosorum and the Poncet type of periarticular arthritis. The patient showed no signs or symptoms of tuberculous infection and the chest X-ray was negative. A beautiful description of the skin lesions then followed, and it was pointed out that both skin and joint lesions were allergic phenomena. Dr. E. T. Conybeare saw a great likeness between the joint condition and that of rheumatoid arthritis, and at last realised why the French attributed rheumatoid arthritis to the tubercle bacillus. He agreed that all the lesions were allergic, but could not decide whether the primary focus was tuberculous or whether the whole picture was streptococcal. On being questioned, Mr. Darlow said the Mantoux test was strongly positive, but

Mr. Wilkinson's opinion of this test was not very high. Mr. Ferguson, for ever practical, wondered if a biopsy would be of help. Dr. E. T. Conybeare then talked learnedly about allergy, but admitted that no one really knew anything about it, and so the discussion ended.

Mr. E. GILL-CAREY showed the case of a man of 54 with signs of superior vena caval obstruction, who complained only of swelling of the neck and dyspnœa. X-ray showed a large mediastinal tumour which was thought to be a carcinoma of the bronchus. This was the easiest case of the evening for diagnosis, which was a good thing, for members were getting tired and were eyeing the clock anxiously. Mr. Clarkson had seen another similar case and did not think there was anything unusual about it. Dr. E. T. Conybeare thought that older clinicians would have been content to diagnose mediastinal tumour in this case and not bind themselves to a carcinoma of the bronchus; striving to be an accurate pathologist, however, he diagnosed a small oat-celled carcinoma arising in a mucous bronchial gland, with large secondary glandular deposits, to account for the predominance of pressure symptoms over pulmonary symptoms.

No one else appeared to have anything to add to the discussion, and the Chairman, after proposing a vote of thanks to the members who had so ably demonstrated the evening's cases, declared the meeting closed.

S. H. W.

A Visit of a Dental Surgeon to Scandinavia

By H. H. Kenshole, Esq., M.R.C.S., L.R.C.P., L.D.S.

THIS is intended to be the story of a journey to Norway, Sweden and Denmark undertaken recently to discover the state of dental knowledge in these places. It so happened that the managing director of a dental supply company was paying a visit, being met and accompanied throughout the tour by his Swedish representative, so that this opportunity of overcoming much of the language difficulty was taken by the writer, who joined the director for the journey.

We sailed from Tilbury for Gothenburg (580 nautical miles) on Saturday evening at six o'clock on November 18th, with some foreboding, for it will be remembered that the *Saxilby* foundered with all hands a day or two earlier in the storm which had not yet completely abated. The S.S. *Britannic* (4,350 tons) belongs to the Swedish Lloyd Line and is most delightfully furnished and decorated, having in miniature most of the conveniences and amenities of the cross-Atlantic floating palaces; an unusual feature, however, being the employment throughout of stewardesses in place of stewards. The evening passed pleasantly with the captain and some of the passengers dancing in the palm lounge, and the dropping of the pilot was watched off the Sunk light-vessel at 10.30 p.m. Throughout the night considerable motion of the vessel was noticed, and at 7.30 a.m. a short stroll was taken on the upper bridge deck, but thereafter the writer regrets to record that he did not vacate his cabin for the remainder of the day. It transpired later that of the 50 passengers, many of them Scandinavians, who are mostly good sailors, only two presented themselves for meals in the saloon. I think it may be taken for granted, in agreement with the captain, that it was one of the worst crossings for a long time.

Upon arrival at Gothenburg a large school dental clinic was visited, but little of novel interest found. No regulation work by means of appliances is carried out, and I was informed that if overcrowding threatens the deciduous canine and first molar teeth are removed in successive years without anæsthetic, it being found that this can be done without disturbing unduly the small patients. Here let it be stated that throughout the whole of Scandinavia it is forbidden by law to use nitrous oxide as an anæsthetic for dental purposes without the presence of a doctor, with the result that all work is done either without anæsthetic, with local analgesic, or for major operative measures ether general anæsthesia.

After lunch we took train for Oslo, a journey of a little over seven hours, and it was decided to take a meal shortly before arrival so that, as we were somewhat fatigued, we could retire upon reaching the hotel. This, however, was not to be. At Oslo we were met by the Swedish representative, who informed us that he had arranged for that evening a meeting with Professor Im Ottesen, the Dean of the Dental School and the person mainly responsible for the very fine new buildings.

Having reached the Grand Hotel we were whisked off to the restaurant of the Hotel Bristol, the equivalent of our Savoy, where oysters and a little wine and Swedish punch, with which I was previously unacquainted, miraculously dispersed our tired feeling, and a tip-top orchestra and

cabaret added to our enjoyment. I mention this for I was impressed by the extreme delight of Professor Ottesen when the music of Greig, the national composer, I understand, was played. While this music continued the party remained in ecstatic silence, and in the intervals the Professor execrated the prevalence of jazz. He had just returned from an enjoyable visit to Russia, where at least 10,000 dental surgeons are urgently needed. I gathered that dental surgery is still in existence in the Soviet State, and even of a reasonable standard.

I learned indirectly that in earlier years Professor Ottesen was a sea captain, but had to give up on account of colour blindness; the sea's loss was undoubtedly the profession's gain. He is still very active, and his great delight is to retire to his small hut away in the mountains to the north in the time of eternal day and Aurora Borealis, and when the snow is thick so that ski-ing can be indulged in during the winter. He travels a great deal, has visited America comparatively recently, and England, Paris and Germany frequently. When last in London he was much impressed by Mr. Bulleid's demonstration of bacteriological work, and also by the mural decorations of a small room on the right of the entrance passage of the College. He remembered both well. He was not well acquainted with our English text-books, but is a firm believer in P. G. Wodehouse's Jeeves. By this I hope it will be realised what charming personality and what catholic tastes has the Dean of the Oslo Dental School. It is hoped next time to visit him in his hut in the north, and one can imagine few more enjoyable holidays. And so to bed a little after midnight.

Shortly after nine o'clock next morning found me at the Norges Tandlaegehoitskol, the Dental School, a new square building upon the northern outskirts of the Capital, from which may be seen views of the big Municipal Hospital to the left, wooded high ground ahead, and numerous big new blocks of flats for working people to the right—a vista which, I imagined, would satisfy the Socialist ideal. Everything looked so clean, peaceful and new.

The School, the only one in Norway, receives a big grant from the State, and in return the numbers of students are limited, and it is arranged as far as possible to train so many students from each town and locality of the country so that all shall be equally well supplied with dental services. Here, as throughout Scandinavia, few teeth are ever extracted, the root-canals of the most filthy, septic and broken-down teeth being treated, and crown or bridge-work being fitted subsequently. Professor Ottesen kindly showed me many series of radiographic examinations which appeared to indicate conclusively the eradication of apical osteitis as evidenced by regeneration of alveolar bone. I watched his treatment of an acute alveolar abscess associated with a maxillary central incisor tooth. This quiescent septic tooth had been treated the previous day with a new type of electrical diathermy apparatus, the operator of which had tried to persuade the Professor of its therapeutic value. Fortunately, the former was probably many miles away by this time, for the result was the typical acute condition, with which we are all well acquainted—considerable swelling and œdema, with extreme tenderness. With careful aseptic precautions the pulp-chamber was opened and various antiseptic medicaments introduced into the canal. Rubber dam was not used, but a new type of clamp fitted, which by means of rubber rings displaces the gingivæ from the neck of the tooth and isolates by means of sterile cotton-wool rolls. The most favoured medicament for antisepsis is a mixture of camphor and phenol. As a water-tight filling, material zinc oxide mixed with 39 per cent. aqueous solution of zinc chloride and one drop of engenol is used, and forms, I was told, a very solid plug which is easily removable as it separates into large pieces like temporary gutta-percha filling, and there is not the difficulty of displacing traces as with ordinary zinc oxide and engenol or oil of cloves.

With the aid of local ethyl chloride spray the swelling was then incised and a little pus evacuated, and subsequently 1 c.c. of "Rivanol," as used occasionally in the past at Guy's by Mr. Parfitt and H. Paxton Baylis, injected. This treatment is, I gather, very popular throughout Scandinavia.

For root-canal filling a substance known as "Allytit," actually asphalt, the substance used for road-surfacing, is used, and apparently it matters not if this protrudes through the apical foramina, for it is not irritant and the excess is, I believe, absorbed. An attempt is always made to pass it right to the extremities of the canals and their deltoid branches. Ottesen does a number of apicectomies, but purely for investigatory purposes. He keeps records of the infecting organisms found present at the time of root treatment and then investigates bacteriologically the apices removed, usually three to six months later, and finally crushes the apices, to try to culture from the debris. The evidence shown indicated the presence, sometimes, of what was undoubtedly buccal contamination acquired at operation, but never of the original infection.

What may be called the accessory departments, the equivalents of our dental histo-pathological, bacteriological and similar branches, are all

exceedingly well equipped and staffed, each having two or three full-time trained assistants at the call of the respective Professor for section preparation, investigation and for research work. This is possible by reason of the financial help from the State.

The rooms where the students work are delightfully airy and have sufficient space, but the equipment, as far as I could see in a short glance, was not superior to that now installed at Guy's. To summarise, this was quite the most pleasing school it was my privilege to visit, and I would much like to return there at a later date to spend a longer time watching the work carried out.

On Tuesday evening we left by the night train for Stockholm. About 11 p.m. we vacated our compartment at a wayside station just over the border in Sweden, where the train waited half an hour while the bunks were lowered to convert into sleeping berths. These first-class sleeping wagons are most comfortable, and are superior to those third-class ones with which I am acquainted in this country. Furthermore, the trains travel at a speed of about 40 miles per hour, and there is consequently not the vibration nor the noise such as would occur at high speeds.

Stockholm was reached about 8 a.m. on Wednesday, and we arrived at the Carlton Hotel shortly afterwards. A word about hotel accommodation in these countries. Sleeping accommodation is everywhere most reasonable. At each place our stay was at first-class hotels, and for about 7 to 8 kroner, approximately 7*s*. 6*d*. or less, an excellent bedroom was provided, having hot and cold water laid on and always with a telephone with which communication can be had with the outside world, as well, of course, as with the rest of the hotel. For the most part tipping has been abolished and a system of 10 per cent. addition to the bill for service adopted. Living seemed by comparison to be more costly than accommodation, yet I suppose it compares favourably with hotels of similar type in this country. Everyone is most telephone-minded, and much travelling is done in taxis, which are of much higher power than here. In the morning I visited a dental depot which is, I believe, almost the most complete in Europe, for it far surpasses in size and the display of equipment and model surgeries, etc., any I had previously seen.

At Stockholm I was unfortunate in that two or three of the leading exponents of dental surgery whom I wished to meet were indisposed. I visited, however, the Tandlakerinstitutet, or Dental School, on Wednesday afternoon and met there Dr. Lindstrom, who holds a position equivalent to Senior Demonstrator of Operative Dental Surgery. He is also completing his medical course. Some of his dental training was received in Germany and, though young, he has written considerably in that language, particularly on preparation for conservative work, jacket crown technique, etc., and also of experiments on animals with the purpose of elucidating dental problems.

Here the language problem was a little difficult, for I particularly wished to see the preparation of a tooth in the mouth for a jacket crown restoration, but succeeded only in seeing the formation of a platinum foil matrix upon a model preparation. However, I was able to judge of his considerable dexterity, and would gladly have seen more of his work.

Here there is a room specially set aside for root canal filling, with attached steriliser room. It appeared to me that there was little more chance of asepsis here than in the main filling rooms. Each student had a small portable electric engine with foot rheostat, but the apparatus is far from noiseless. Throughout Sweden, of course, the use of electricity is much advanced by reason of the enormous water power, and the consequently extremely low cost of electrical energy.

Much jacket crown restorative work is performed, and the furnace room has a battery of porcelain fusing furnaces with resistances mounted on brackets above each instrument. Little fusing was being done, however, at the time of my visit.

In the evening we went to dinner in a suburb about 8 miles from Stockholm, at the house of the Swedish representative. Here the snow lay on the ground and the houses are almost entirely constructed of wood, and situated in a thickly wooded part, giving the place a most pleasant Christmassy atmosphere. Mrs. Holmstrom is a fully qualified medico, still performing her duties in the wards of one of the Stockholm hospitals. She hopes to visit Paris and America in a year's time, and upon her return will practise as a specialist in women's ailments. Her father and mother also were visiting from Helsingfors, the capital of Finland, and as the former is a dealer in skins and furs, an atmosphere of the cold life of hunters and trappers added to our enjoyment.

On the Thursday morning a further visit to the Institute, where I met the orthodontist. After a short tour of the building, including a visit to the surgical section, where the removal of a small apex of a tooth was being performed under local analgesia with Novocain, I accompanied him to his practice, where I saw several models, showing the condition before and after treatment of marked inferior protrusion. Splints are made and, under

general anæsthesia, the ascending rami are severed by means of a thin saw passed through a cutaneous incision in the parotid region of either side. The freed horizontal portion of the mandible is then displaced posteriorly to a corrected position and immobilised by splints.

This specialist lunched with me and told me of the unfortunate state of a leading dental surgeon of Stockholm. This surgeon apparently has attended to the dental requirements of Swedish Royalty and many of the nobility, and Kreuger also was numbered among his patients. Before the smash came, at every visit Kreuger would impress upon the dental surgeon the wisdom of investing as much as possible in the concerns connected with his name, and this the unfortunate man proceeded to do, going even so far as to borrow heavily with this end in view. Another instance which shows how easily dental surgeons, who, thank Heavens, are not for the most part commercially- and mercenary-minded, can be and are led astray in monetary matters.

And so to the practice of another very busy practitioner, Dr. Lidman, about whom the press had recently created a furore, it being alleged that he had charged the equivalent of £500 for a prosthetic appliance. There is little need, I think, for the doctor to be unduly worried, for some of the work which I saw in his workshop was superb. All prosthetic appliances are fixed by means of Chayes attachments, and all inlay work is carried out by indirect methods. In Scandinavia tremendous quantities of gold are used, and much inlay work done. I was unable to discover how average fees for dental treatment ranged, but there is nothing equivalent to our National Health Insurance dental scheme.

The single fact that struck me most in the whole tour was the almost universal replacement of burrs by carborundum stones, discs and mounted points. It is important, however, that cutting be carried out under a stream of cool water, and this necessitates the help of a carefully trained assistant. Slice preparations for inlays are very popular, and I was privileged to see here the preparation of a number of teeth in the right mandibular region of a mouth for such restorations.

Since my return I have found how helpful it is to use a small mounted carborundum wheel to cut through the hard enamel of a tooth to reach subjacent interstitial caries. Similarly, the removal of enamel when cutting out stained occlusal fissures for reasons of " extension for prevention " is much facilitated by the use of small diameter wheels in right-angle mandrels.

A daily flying service by seaplanes to Helsingfors is in operation, and had time allowed it would have been interesting to visit the newly built and equipped Dental School there, for I understand that everything is most up to date, but, unfortunately, it was not possible.

Of Stockholm itself I will not write, for Mr. Eckhoff's recent description and photographs far surpass any I could give. Suffice it to state that after an enjoyable dinner party at the Opera Kallern (literally, the Opera Cellars), where I met the surgical specialist of the Dental Institute, but learned little of interest that was new, we took the night sleeper train for Copenhagen.

Next morning I awakened at Malmö, where the through sleeping coaches are transferred to a ferry, for the voyage of one hour's duration to the free port of Copenhagen. On passage we entered into conversation with a Swede and inquired about the Kreuger affair, asking whether it was intended to erect a memorial in loving memory of the financier. We found that the disaster has been taken philosophically, the traveller stating that when the position was realised everyone shrugged their shoulders and decided that the best thing to do was to work hard and retrieve their lost fortunes, and in doing this they seem to have succeeded well.

Denmark has been sorely hit by reason of the quota on dairy and pig produce entering into Britain and by the restrictions on importations into Germany, and the effects are universally apparent if looked for ; the free port of Copenhagen was almost deserted. The Dental School was visited, the Radhuset—the fine buildings equivalent to our Houses of Parliament—being passed on the way.

The opinion formed of the state of dental surgery existent here compares closely with that expressed by Mr. Eckhoff concerning general surgery. The School accommodation is somewhat cramped, but the best use is made of that available. Dental education would, however, appear not to be as thorough nor so vigorous as in Oslo and Stockholm. By a recent law it is enacted that not more than 150 new dental surgeons shall qualify in any one year, so that a reasonable living should be enjoyed by all—a state which was not so in the previously overcrowded profession.

Saturday morning at seven o'clock found us once more in the train for Gothenburg. A few miles from Copenhagen the through carriages were again transported by ferry to Sweden, a

distance occupying 40 minutes or so in transit across the Kattegatt, and so to Gothenburg, arriving at 1 p.m.

The *Britannia* sailed at 6 p.m., and the return voyage was most pleasant. We passed two large fleets of trawlers, one at night, and these small vessels appeared to be dancing considerably. The pilot was watched coming aboard off the Sunk light-vessel at 2 a.m. on Monday and Tilbury reached at six o'clock, though an extra hour was obtained as Scandinavian time is one hour in advance of ours. And so back to St. Pancras, reached at 9.30 a.m., and most pleasant it was to be driving one's own car again through the streets of London back to Guy's, where the facilities and opportunities of the Dental School still, in the opinion of the writer, remain unsurpassed by any other met in his various wanderings.

Sensitive Dentine

A Paper read before the Dental Society, Guy's Hospital, by R. L. V. Henderson, Esq., on 8th January, 1934

MR. CHAIRMAN and GENTLEMEN,—I have chosen this subject for my paper to-night not because I have any new theories to put forward, but because I think it is a burning question for everyone present and one that should be discussed more than it is. The dental surgeon who first finds a real means of banishing the idea that pain and the dental chair are one and the same thing will not only benefit humanity but will become the most successful man of the day.

Before the different methods of treatment, let us consider the anatomy of an average tooth. The outer surface of the crown of a tooth is covered by an almost entirely inorganic substance called enamel. The question of the vitality of enamel has not been conclusively proved so far. Many people state that as enamel contains from about 1 to 3 per cent. of organic material it must of necessity be a vital substance. The recent work of Fish points to the view that the organic matter is contained in the prism sheath and, as this sheath rapidly becomes keratinised, the enamel loses its vitality, although the organic content remains.

The bulk of every tooth is composed of dentine, which consists of an organic matrix impregnated with lime salts; this matrix is everywhere permeated by a system of tubes which radiate with some minor exceptions from the pulp cavity towards the surface of the tooth.

The contents of the dentinal tubes has for many years been a point of great controversy. Each tube contains a dentinal fibril which is a prolongation of the odontoblast cell of the pulp. This fibril does not entirely fill the tube, but leaves a space round it along which fluids can pass. This fluid resembles lymph and seems to have an ebb and flow movement. Howard Mummery definitely states that every dentinal tube contains a neurofibril and these, at the enamel junction, spread out within the terminal branches of the dentinal tubes and some enter the interprismatic spaces of the enamel and terminate in small bulbous enlargements. Cementum covers the dentine over the roots of the teeth and is a much softer substance than the others, resembling bone in composition.

Having briefly outlined the hard substances of a tooth, we ask why dentine becomes hypersensitive.

It is only when normal dentine, which is slightly sensitive, is exposed to abnormal conditions that it becomes unduly responsive to mechanical, chemical or thermal irritation. The direct cause of sensitive dentine is, therefore, the loss of its natural covering. Sensitive dentine may be divided into two main classes :—

1. Round the necks of teeth without any underlying caries, and

2. In cavity-cutting where caries is present.

Sensitive areas round the necks of teeth may be caused in two ways. Firstly, the enamel and cementum may never have joined. Choquet states that in 27.5 per cent. of cases he examined there was a breach of continuity, a minute surface of dentine being exposed.

Secondly, traumatic or atrophic gingivitis may cause a shrinkage of gum tissue, leaving the cementum exposed, and this in turn being a fairly soft tissue would soon be worn away, leaving a raw area of dentine. It is usually this pathological type that is sensitive to heat and cold and changes in osmotic pressure produced by such things as sugar. The hypersensitiveness is produced by the exposing of the granular layer of Tomes. This layer is composed of a great number of interglobular spaces which communicate with the dentinal tubes and hence have a direct communication with the pulp. This can be proved by injecting into the pulp of a tooth and then cutting sections showing the stain in the interglobular spaces. Care should be taken not to grind the sections too thin, for if this is done all the stain will be washed away by the water and pumice used.

In treating this type of sensitiveness any drug used should conform as near as possible to the following rules :—

1. Ease and painlessness of application.
2. Rapidity of action.
3. Limitation of action to denture only, *i.e.*, a non-penetrating substance.
4. Non-irritation of pulp at application or afterwards.
5. Should not discolour the tooth substance.

Three methods are mostly used for these areas : (1) Formaldehyde ; (2) Silver nitrate ; (3) Zinc chloride.

Formaldehyde is a drug that is used more in America than in this country, and its method of application is as follows :—

The tooth to be treated is first clamped off with cotton wool rolls and the sensitive area is dried by swabbing with alcohol and gentle blowing from a warm chip syringe. After this has been repeated once or twice a matchstick is dipped into the formaldehyde and rubbed firmly on the sensitive spot. This generally has to be repeated once or twice, but is claimed to be an unfailing remedy which does not in any way injure the pulp. Great caution has to be taken as to the amount used and the energy with which it is rubbed in, as formaldehyde is a penetrating drug. It is better to use a small amount at each sitting rather than a lot at one as by this means the amount required can be determined.

Silver nitrate may be used in three ways. Firstly, it can be used in solution and rubbed on the area after the dentine has been thoroughly dried. Secondly, the silver nitrate can be used in stick form and rubbed on the sensitive spot. Thirdly, and by far the best method, is to burn a small piece in a flame and place it on the exposed dentine. Whichever process has been used it must generally be repeated once or twice before it is entirely satisfactory. Silver nitrate used in this manner mixes with the albumin of the dentinal tubes to form the albuminate of silver, which is a powerful antiseptic and it not only retards caries but in many cases arrests the condition altogether.

In the anterior teeth the discolouration due to the use of silver nitrate is a very great objection, and so another drug, namely, zinc chloride, is used. The methods of application are the same as those used for silver nitrate.

Hypersensitiveness during cavity cutting can be put down to a variety of reasons. The first area met with is the amelodentinal junction, and I expect all of you can remember cases, when cutting along this line, of small pieces of enamel being left. The pain caused in removing these fragments is usually worse than that of cutting the rest of the cavity. The cause of hypersensitiveness of the amelodentinal junction is the greater abundance of organic matter present. This increase is brought about by the dichotomy of the dentinal tubes and the spindles and tufts in the enamel. Any instrument cutting along the amelodentinal junction, therefore, will meet a greater number of dentinal tubes than it would anywhere else. Two types of reaction in dentine to caries have been shown. There is that type of reaction found when caries attacks the occlusal surfaces of molars where the dentinal tubes themselves calcify up and leave a translucent zone. The pulp and the portion of the tubes near the pulp are not affected until some future date when the caries spreads more deeply. The second type of reaction occurs in all other situations and is caused by the toxic material overwhelming and killing the protoplasmic contents of the tubules throughout their whole length as far as the pulp ; this produces a dead tract in the dentine. Some of the odontoblasts share the fate of the fibrils, but the pulp as a whole responds to the irritation caused and protects itself by laying down secondary dentine. The nature of the secondary dentine is determined by the number of odontoblasts remaining, and hence can be traced back to the rapidity of the caries. Rapid caries, therefore, is usually much more associated with hypersensitiveness than slow caries, as the pulp has no time to prepare its protective barrier. How the sensations are carried to the pulp is a debatable point. They may be carried there by nerve fibres, they may be carried by the protoplasmic dentinal fibril, or they may be caused by pressure on the fluid content. If sensations are carried by nerve fibres or the dentinal fibril in a dead tract type of reaction, it surely should be possible to put a burr right through the dentine to where the pulp canal was before secondary dentine was laid down. Some people affirm that this can be done, but no proof is as yet forthcoming.

METHODS OF TREATMENT

Firstly, general methods such as the quality of the burrs. Secondly, those agents which produce a physical change in the contents of the tubules such as dessication, heat and cold. Thirdly, those agents which destroy or disorganise the contents of the tubules such as caustics. Fourthly, those agents which, when applied to the dentine locally or hyperdermically, produce a condition of analgesia such as phenol, oil of cloves, novocain.

1. Among the general methods a point that cannot be stressed too much is attention to the quality of the burrs used. A blunt burr, if only

by the heat it generates, is much more painful than a sharp one, in the same way it is pressure, not cutting, that causes extreme pain. The chisel that makes one clean cut is less painful than the butt, and the straight hand-piece is less painful than the right-angle variety that wobbles into two or three cavities at once. If you study each tooth you cut a cavity in, after a time you can tell when a sensitive area is being approached, such as often occurs where the carious and the vital part of a tooth meet. Tell the patient then when it is likely to hurt, because if you do this he immediately comes to the conclusion that you know what you are doing and have all your attention fixed on your work. But whatever happens never let the poor sufferer imagine that as far as you are concerned it may as well be a piece of wood you are drilling.

2. Dessication is an agent of great value in alleviating hypersensitive dentine, and obtains the result by extracting from the tubes all the moisture they contain. This is best done by flooding the cavity with absolute alcohol which has an affinity for water and then evaporating by a stream of warm air, preferably raising the temperature to the highest point the patient can stand. At a demonstration in Cardiff Mr. L. G. Gray showed the good results obtained by the use of compressed air at a given pressure (two atmospheres). The nozzle of the compressed air blower is applied as the burr revolves and thus dries, removes debris and, if kept rigidly at 30 lb. pressure, obtunds at the same time. The temperature should be about body heat, and the pressure must be kept constant, any pressure above or below this causing pain.

Cold air has been used, but not with the same degree of success. After the cavity has been prepared the sensitiveness returns and can be tested by scraping with a probe. Extreme cold is another very useful means of obtunding sensitive areas, and an easy method of doing this is by means of a stream of cold water. The cold water should first be directed around the tooth and finally into the cavity that is to be prepared. Debris is washed away, but the spray has to be stopped occasionally to allow a good view of the cavity. The disadvantages of this method mainly lies in the fact that it requires two people to cut the cavity. I have been using instruments of this nature strapped by rubber bands on the hand-piece and find that it certainly does obtund, although the risk of a shower bath is rather great.

Another means of applying cold to a tooth is by using ethyl chloride. The temperature of the tooth is first lowered by means of alcohol and cold air, then a plug of cotton wool is inserted and a spray of ethyl chloride directed on it. The numbing power of the ethyl chloride does not last for long, and must only be applied in shallow cavities where the risk of injuring the pulp is small.

3. Silver nitrate is usually used by precipitating with Eugenol. The solution of silver nitrate is placed in the dried cavity and moistened with a drop of Eugenol. By this means the silver is precipitated. As has been mentioned, silver nitrate acts by forming the albuminate of silver, and has the power of hardening any soft tissue it comes in contact with. But the same as all other drugs, the action of the silver nitrate is not limited to the area where it is applied ; it penetrates and, if used near the pulp, will cause irritation and probably inflammation of the pulp.

Mr. Lewin Payne described in the *Dental Cosmos* a simple means of desensitising dentine without endangering the health of the pulp. This consists of paste composed of :—

Paraform	3 parts.
Orthoform.....	2 parts.
Thymol	0.25 parts.
Wool and paraffin	1.75 parts.
Soft paraffin	7 parts.
	14.00 parts in all.

Paraform has long been used in one way or another to desentitise cavities, but usually insufficient strength to cause death or injury to the pulp. In this paste it will be seen that paraform comprises about one-fifth of the total bulk. Paraform acts by giving off formaldehyde vapour at body temperature, and not only does it have great antiseptic properties, but it also hardens soft tissues with which it comes in contact. The other ingredients are added to the paste mainly to make up the bulk with the exception of the orthoform, which, besides having anæsthetic properties, produces the reddish colour of the paste, making it easily seen when in contact with the yellow colour of the dentine. The method of applying the paste is as follows :—

Remove the soft superficial caries from the cavity and then, after cleansing the surface of the dentine with alcohol, smear the paste very thinly over the part to be desensitised, cover with a small piece of cotton wool and seal in with osteo-cement. This paste is very useful in cervical cavities which are extremely painful. In preparing this type of cavity care must be taken to protect the gum by varnish or some other means. The dressing is left in for not more than 48 hours and then removed and the cavity preparation started. If desensitisation is not complete after one application the treatment may be repeated. I have had some of this paste prepared and used it with success in

about a dozen cases. In one instance a slight pain, nothing to complain of, was felt by the patient while the paste was in position, but when the cavity was opened the dentine was found to be desensitised. Having a large cervical cavity of my own needing attention, this paste was introduced by a kind house surgeon. After 24 hours it was removed and the cavity cut, with no pain at all, whereas in the first instance I could not bear a probe near the tooth.

4. Novocain as a local anæsthetic injected hyperdermically. If a patient complains of pain during cavity cutting a local anæsthetic seems to be the first thing the operator thinks of and gives, often with very little regard of any after-effects or any consideration of the patient's health. Local anæsthetics, although certainly a boon to dentistry, have quite a number of drawbacks when used indiscriminately for cutting cavities. Naming some of the faults first: Adrenalin constricts the arterioles and retards bleeding, and so it is sometimes almost impossible to see if a small exposure has been made or not. If the tooth is filled on top of an exposure an unnecessary amount of after-pain will be felt for a few days, while the source of irritation is looked for and in the end the pain to the patient will have been much greater than that caused by cutting the cavity without an injection. In this connection Mr. Doubleday, in a paper read to the British Dental Association, advocated the use of gutta percha to fill a cavity until the effects of the adrenalin have worked off. This practice is taught in many dental schools, and does away with the risk of filling on top of a traumatic exposure and that very hard task, the removal of a good piece of work.

Many other effects of novocain have been reported, including at least one case in which the anæsthetic affected the hands and face of the operator, causing them to become swollen and covered with blotches. In many cases the patient does not think of telling the dental surgeon of any condition he may be suffering from. A patient with advanced arterio-sclerosis, for instance, should never be given a local anæsthetic, especially if the sclerosis is of the coronary arteries. An injection given to a patient of this type may by the shock alone contract the already narrowed lumen of the arteries and so stop the circulation. Injection should never be given into an infected area for fear of spreading the contents. Great post-operative pain may be caused by injecting into a muscle, injury to the nerve itself or getting between the periosteum and the bone and so forcing them apart. Paralysis of part of the face may be caused by injuring the nerve fibres or of not removing all the alcohol, if that has been used to sterilise the syringe. There is a tendency when a local injection has been given to work too fast, and so generate a great amount of heat which may have an injurious effect on the pulp. Last, and not least, may I remind you that needle-breaking, although rare in this hospital, can be managed, and in America, Theradore Blum published a record of 100 cases he had to deal with between 1914 and 1928.

The advantages of novocain can be divided into those obtained by the patient and those by the surgeon. The patient, first of all, does not feel anything except an initial prick, and so is very grateful. Added to this is the fact that, as he keeps quiet while the drilling is carried out, he probably gets a better filling than if he were moving all the time. In the same way the dental surgeon can cut a cavity that he is proud of and need not be content in just removing caries. This especially applies when a key-way has to be cut in sound material.

Novocain can also be used by a slow absorption method. This is done by drying out the cavity and filling into a one-sixth grain tablet of novocain; over this place a plug of cotton wool moistened with normal saline and seal in with osteo-cement. The cavity should be seen again and excavated in about 48 hours, when it will be found that the dentine is non-sensitive.

Cocaine hydrochloride is usually used for pressure anæsthesia. The cocaine, preferably with the rubber dam in position, is placed in the cavity and moistened with normal saline. A piece of unvulcanised rubber is then placed on top and the whole thing forced into the cavity as hard as the patient will allow. The cavity is then excavated and the process repeated until the required depth is reached.

Phenol and oil of cloves can be used separately or, much better, by mixing together. The cavity is first dessicated by means of alcohol and warm air and then a plug of cotton wool, saturated with a mixture of the substances, introduced. A current of warm air is then directed on the cotton wool until it is nearly dried. This has to be repeated fairly often, but has the added advantages that, as well as obtunding, it sterilises.

Many drugs can be given through the general system to help nervous patients. Potassium bromide, 5 grs. three times a day for 48 hours, two tablets of allonal the night before the visit are great aids to neurotic patients.

It has been suggested that an alcohol chloroform ether mixture should be administered, keeping at the first stage of anæsthesia. The mixture is added until the patient feels a tingling in the

extremities or begins to feel the effects of the drug. At no time should be patient be sufficiently under the influence of the anæsthetic to be unable to converse intelligently with the operator.

Nasal gas can also be used to cut cavities under and the method of administration is as follows. Seat the patient in the chair and adjust the nose-piece carefully to avoid leakage. As the patient does not loose consciousness the mouth can be left uncovered and no prop need be used. The patient is told that he will administer his own anæsthetic and directed to breathe through his nose until a sense of numbness comes over him and until his teeth, if snapped together, will feel like wooden pegs. If he feels he is going to sleep he is directed to breathe through his mouth. Having explained all this to the patient, a mixture of 80 per cent. nitrous oxide and 20 per cent. oxygen is given, and as this is the same oxygen content as atmospheric air no asphyxial symptoms are exhibited. This does not necessarily remove all pain, but the patient will probably have forgotten about it in the novelty of administering an anæsthetic or by the time full recovery sets in.

In conclusion, I would like to thank Mrs. Lindsay for so kindly supplying me with numerous references for this paper.

Correspondence

The Rowing Club

To the Editor of the GAZETTE

SIR,—In accordance with Rule 22 of the Guy's Hospital Clubs' Union, I desire to inform you that the honorary secretary of the Rowing Club has informed the Clubs' Union Council that at a meeting of the Rowing Club it has been decided to alter Rule 1 and that the name of the Club in future shall be "Guy's Boat Club."

I shall be glad if you will kindly insert a notice in the next issue of the *Gazette*, informing members of the Clubs' Union of the proposed change, and if there is any objection to forward it to me not later than Saturday, February 17th.

Yours, etc.,

N. L. ECKHOFF,
Hon. Secretary.

Guy's Hospital,
S.E.1.

"Extractions in Orthodontics"

To the Editor of the GAZETTE

SIR,—Owing to a printer's omission in the paper published in your last issue under the title of "Extractions in Orthodontics" there was some ambiguity where it was least desired.

The sentence concerned should read: "Whereas *upper* molars move forwards readily, lower molars are slow to do so."

Yours, etc.,

R. ERNEST RIX.

71, Wimpole Street,
W.1.

(We apologise to Mr. Rix for this error in proof-reading.—EDS.)

Suzanne Bosman

To the Editor of the GAZETTE

SIR,—There will be some still at Guy's and among your readers a great many who will remember in 1922 a cheery little South African, Suzanne Bosman, who was a patient in Bright Ward for many months.

All who remember her even ever so slightly, with those who knew her more intimately, will regret to hear of her untimely death. She passed away in the Hof Street Nursing Home, Cape Town, on January 4th, following a complete amputation of the right leg two months previously.

The funeral took place at Worcester, Cape, her home town, the next day.

Patient and cheerful until the very end in spite of much suffering, she always remembered and referred to with gratitude all that had been done for her. Only a few weeks before she passed away she was talking to us about Guy's—my husband was a student there at the time and I was a nurse—and she spoke in such appreciative terms of all that had been done for her there, mentioning by name the various members of the medical and nursing staffs who had attended her, and referred to none in anything but the very highest of terms. She realised that her case was hopeless, but she greatly appreciated every effort that had been made on her behalf, and she was ever ready to sing the praises of the hospital to which she felt she owed so much.

Yours, etc.,

EVELYN NESER.

Siddle Street,
Klerksdorp,
Transvaal.

Reviews

Maternal Mortality and Morbidity—a Study of these Problems. By J. M. MUNRO KERR, M.D., F.R.F.P.S. (Glas.), F.C.O.G., Regius Professor of Midwifery, University of Glasgow. Published by Messrs. E. & S. Livingstone, Ltd. *Price* 25*s.*

THIS comprehensive contribution to the literature of the study of maternal mortality and morbidity is of outstanding merit; of interest and value to all engaged in the practice of obstetrics or its furtherance, this book is in no way circumscribed in its review of the subject, but on the contrary is discursive; it is singularly free from dogma.

Professor Munro Kerr is at considerable pains to set forth the facts as at present ascertainable, —his authorities quoted are innumerable,—and then himself supplies the commentary upon them. The facts are set forth with numerous statistical tables, some borrowed, many new; they are all carefully marshalled, and Professor Kerr's comments are at all times pertinent, while, coming from one of such extensive experience and penetrating insight, they always provide food for thought. Herein lies the value of the book; it should be read and digested carefully by everyone engaged in midwifery or the administration of public services for maternal welfare.

The book, 382 pages long, is divided into four parts, dealing with the causes of morbidity and maternal death, their prevention, present maternity services throughout England, Scotland and Wales, and with a proposed national maternity service; in addition are several appendices. The first part emphasises how impossible it is to compare figures from different countries using different systems of notification, it gives a detailed consideration of the various causes of maternal death and morbidity. On page 107 an important, as yet unpublished, investigation by Dugald, Baird and Hart is recorded: the Royal Maternity Hospital, Glasgow, is divided into three units, of which only one practises really efficient masking; the incidence of puerperal sepsis, particularly with the streptococcus hæmolyticus, is strikingly low among the patients of this unit, so they found. The high mortality rate when instrumental delivery at the first attempt has failed is again stressed. How important it is to combine antisepsis with asepsis is illustrated by several instances recorded of disaster in institutions which have relaxed their routine use of antiseptics.

Professor Munro Kerr's views on the organisation of maternity services are well known; in Part IV these are well stated, and he includes details and diagrams of hospital planning which, if not always possible of attainment, are ideals at which to be aimed.

In concluding this brief and inadequate review of what will prove to be a standard work for many years we would draw attention to the following remarks made by Eardley Holland ten years ago, but just as true to-day, which are quoted at the start of the chapter on the management of labour :—

"Ante-natal methods are the strategy, intra-natal methods the tactics of obstetrics. There is, I believe, a tendency nowadays to exalt the strategy at the expense of the tactics. How wrong this unequal conception of midwifery practice is becomes at once apparent when we realise that when treatment is indicated, as the result of ante-natal examination, such treatment usually consists in the application of intra-natal methods. . . . Though ante-natal work is of immense importance, yet the importance of the intra-natal period and the necessity of getting a better standard of midwifery practice must be recognised much more than it is at present." Professor Munro Kerr whole-heartedly concurs.

J. B. B.

Guy's Hospital Gazette

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The Editor will, at all times, be glad to consider articles or sketches, provided that they are accompanied by the writer's name and address, not necessarily for publication. The payment that the GAZETTE can offer is merely nominal. Authors who desire reprints of their papers should make their own arrangements with the printers when they return their proofs. All contributions to be addressed to *The Editor*, who does not accept responsibility for the views expressed by contributors.

Sport

Rugby

Guy's v. Old Merchant Taylors

THE Hospital opened the second half of the season on Saturday, January 6th, with a home match against the Old Merchant Taylors, and were defeated by 5 tries (15 points) to nil.

The visitors thoroughly deserved their success, and had they had a goal-kicker on their side, the margin of points in their favour would have been infinitely greater. Their team-work and close backing up, especially in the second half, was admirable. The brothers Heck at half-back were in irresistable form and were a continual source of trouble to the Hospital defence.

Guy's had to find substitutes for no fewer than seven of their regular fifteen, but this is no excuse for their poor display. With the exception of the first half-an-hour, when the Hospital had the wind in their favour, the Old Boys were definitely on top, and it was only superb defensive work on the part of Guy's that kept the score within reasonable limits.

The Hospital forwards were badly beaten in the set scrums and, consequently, the backs had few opportunities to show their skill; even when they did get the ball, chances were thrown away through faulty passing or lack of confidence.

Giesen was the only member of the back division to show anything like class form, but he was ill supported, especially on the right, where the services of Wright and Alexander were sadly missed.

In the early minutes of the game, Guy's pressed the visitors in their 25, but, following a splendid kick to touch by Parry, the Old Boys engaged in some rapid short passing, which bewildered the Hospital defence, and H. D. Heck sent in H. P. Harvey for an easy try, which was not converted.

For a time the exchanges were fairly even and, thanks to some good kicking to touch by Giesen, the visitors were kept in their own half. Guy's had one or two opportunities to score, but hesitancy on each occasion enabled the Old Boys to keep their line intact.

After the interval, the Old Boys, assisted by a strong breeze, took matters into their own hands, and before many minutes had elapsed W. D. Heck slipped round the blind side of a scrum in the Hospital 25 and registered a try near the posts, which Spragge failed to convert from an easy position. This was followed by a glorious round of passing between Heck, Spragge and Bywater, which ended in Harvey scoring another unconverted try.

The Hospital tried hard to get going, but in spite of desperate efforts by Hogbin, Hale-Munro and Darke, they could make little headway.

After Bywater had missed a penalty, the brothers Heck broke away again, and Turnbull was up to take the final pass, to score in the corner.

In the last minute of the game the Old Boys' forwards made a dashing raid, and only severe tackling prevented them from scoring, but a little later their efforts were rewarded when H. D. Heck cut through in brilliant style and completed the discomfiture of Guy's by touching down for the final try, which was not converted.

Team.—E. C. Sharpe; R. M. de Gregory, J. E. C. Peacock, J. E. Giesen (Capt.), A. G. Johnson; J. van A. Steytler; V. H. Bowles; M. R. Kark, H. H. Crabb, C. S. Darke, R. J. Drummond, D. M. Leeming, T. A. Hale-Monro, R. A. P. Hogbin, A. R. Clarke.

Guy's v. Birkenhead Park

VISITING Liverpool on Saturday, January 13th, Guy's did very well to run their opponents to a draw of 6 points each—both sides scoring 2 tries.

The Hospital lacked the services of P. C. Alexander, who was down with tonsillitis, Lindsey, Thomas, Heberlein and Clarke, whilst the Park missed T. C. Knowles, their captain.

Only a month ago Birkenhead Park defeated the Hospital at Honor Oak Park, so therefore it was not surprising to find that they expected to repeat their success at home. As the game developed, Guy's were undoubtedly the better side, and they were unfortunate not to win, but faulty handling cost the Hospital several tries, and the Park were lucky to escape defeat.

The home back division were not the force they were last month and their movements were very disjointed, especially in the first half, when the game ran favourably for them.

After the interval, Guy's showed a marked improvement, and their forwards, particularly Hogbin, Darke, Kark and Hale-Monro, were always to the fore leading dashing raids. The Park were unfortunate in the second half, as they lost the services of Lane, one of their centres, and in the closing minutes Steel, their hard-working scrum half.

Wright was always outstanding for Guy's and Johnson was a good wing. Steytler played very well at fly-half, but there were many faults in the three-quarter lines of both sides. Neither side impressed, and tackling was the strong point of each team.

Territorially, Guy's had the advantage, but the Park scored first when Holden got over for an unconverted try. After the interval Sheman crowned a fine forward rush when he gave the home side a lead of six points by forcing his way over for a try, which was not converted. At this point Lane retired, and soon after Hale-Monro and Kark scored tries for Guy's. A successful goal-kick from two fairly easy positions would have turned the game in favour of the Hospital, but Hogbin, usually so reliable, missed both.

Team.—E. C. Sharpe; R. M. de Gregory, C. G. Wright, J. E. Giesen, A. G. Johnson; J. van A. Steytler, V. H. Bowles; M. R. Kark, H. H. Crabb, C. S. Darke, I. G. Robin, R. J. Drummond, T. A. Hale-Monro, R. A. P. Hogbin, R. Yerbury.

Guy's v. Old Leysians

AT Wandsworth, on Saturday, January 20th Guy's were successful by 2 placed goals (10 points) to a penalty goal and a try (6 points).

Owing to illness and examinations, Guy's were still without several of their regular fifteen, notable absentees being Alexander, Lindsey, Thomas, Heberlein and Bowles. However, their deputies, chiefly Sharp at full-back and de Gregory on the right wing, gave a much better display. Both have acquired confidence since they were introduced into the first fifteen. Sharp tackled fearlessly and, although his kicking is not strong, he seldom failed to find touch, whilst de Gregory proved a speedy winger and tackled much better than previously.

As Bowles is unlikely to be available for the Hospital Cup-ties, a further trial was given to Chapman, who again played a sound game, his passes from the base of the scrum being reminiscent of F. Bakker—long, swift and accurate.

Guy's started off in whirlwind fashion and it appeared as though they would have a runaway victory, but the Old Boys had a solid defence and forced the Hospital to go all out to retain their lead.

In the first minute Guy's were hammering away on the Old Boys' line, but, after several scrums had been formed, they were forced back to midfield.

The Hospital pack were playing a great game and got the ball back to Chapman fairly regularly. The threes were able to indulge in many passing movements, but these never got very far owing to the close marking of Giesen and Wright. In fact, one of the features of an uninteresting first half was the particularly good tackling by the Old Boys' back division. During this period the home side concentrated on defence, and appeared to be content to act as spoilers.

On one occasion A. R. Clarke dribbled through cleverly and actually crossed the line, but knocked on when tackled and in the act of touching down.

After Kilner had missed a penalty kick, the Hospital three-quarter line carried out a smart round of passing, and after Steytler, Giesen and Wright had handled the latter found a narrow gap in the defence and raced up to the full-backs. Although tackled in possession he managed to get the ball back to de Gregory, who crossed the line at top speed for a try, which Hogbin improved with a magnificent kick from near the touch-line.

Towards the end of the first half, the persistency of the Old Boys was rewarded when Taylor crossed for an unconverted try in the corner.

After the interval, Guy's set up a hot attack and Chapman found touch in the corner. From the line-out the ball was transferred rapidly to the right wing, were de Gregory cut in beautifully, but was brought down only a yard from the line. Following a scrum in front of the posts the ball came out nicely to Giesen, who missed a splendid opportunity to drop a goal.

The Old Boys retaliated and their forwards, who were playing with any amount of enthusiasm, carried play into the Hospital 25. Guy's had to be very much on the alert, and a nice punt ahead in front of the posts looked dangerous, but de Gregory made a mark in spite of the fact that he was surrounded by opponents. However, he sliced his kick badly, and this nearly resulted in Kilner crossing in the corner, but Sharp saved the

situation with a superb tackle and eventually found touch.

The ball was worked into the home side's half by degrees, and Hogbin, picking up in the loose, saw an opening and was through the defence in a second. He had to run quite 30 yards before reaching the line, but his speed took everybody by surprise and he flashed by the full-back to score a try to which he added the goal points.

Following this reverse, the Old Boys tried hard to break through, but the Hospital defence was equal to all demands. However, Guy's gave away a penalty when one of the forwards got off-side near the 25 line, and Kilner made no mistake with the kick, and landed a penalty goal from a difficult angle.

Team.—E. C. Sharpe; A. G. Johnson, J. E. Giesen, C. G. Wright, R. M. de Gregory; J. van A. Steytler, W. Chapman; M. R. Kark, H. H. Crabbe, C. S. Darke, I. G. Robin, R. J. Drummond, R. A. P. Hogbin, T. A. Hale-Monro, A. R. Clarke.

Hockey

Guy's v. R.A.M.C.

ON Wednesday, January 17th, Guy's visited the Royal Army Medical Corps at Crookham Camp, near Aldershot, for their first fixture with them, and they were successful in defeating them by 6 goals to 2.

Neither side were at full strength, Guy's being without Richmond and Boucher, and the R.A.M.C. had some men playing for the Army. The sun was rather glaring, but Guy's started well and attacked for most of the first half. The forwards took some time to settle down and muddled rather at first, but later, after some good combination by the inside forwards, Jelly scored. The R.A.M.C. then made great efforts to reach the Hospital's goal, and after a short corner in their favour they scored with a spinning shot which Brown found difficulty in following.

Shortly before half-time Franklin made a good run down the left wing and centred to Dryland, who made a first-time shot which gave Guy's a lead of 2—1 at the interval.

Playing up the slope in the second half, Guy's were well together, and after the R.A.M.C. had equalised to 2 all from a scramble round the goal mouth, the Hospital again did most of the attacking. Trethowan, whose long absence has been a loss to the side, played well at left inner and scored early in the second half. This was followed almost immediately by another from Jelly.

Play was now in mid-field for some time, forward rushes by both sides being stopped by the backs. After some useful work by Archer at centre-half, the ball went out to Franklin, who up till now had been late in centreing, but this time he went through himself and scored with a clever shot. Shortly before the end Trethowan gave a good pass to Dryland, who scored the Hospital's last goal.

Of the defence, Archer was sound and fed the forwards well, while Loden raced across at the last minute from left half and saved one certain goal.

Team.—H. V. Brown; A. C. Greene, L. C. Thomson; R. C. Hill, R. G. Archer, A. E. Loden; A. S. Bookless, J. W. Dryland, G. O. Jelly, L. N. Trethowan, J. B. Franklin.

Guy's v. Old Charlton

IN Charlton Park, on Saturday, January 20th, Guy's defeated Old Charlton by 3 goals to 2. The ground was rather heavy, and there was a lot of mishitting at first, especially by the Hospital backs, which looked distinctly dangerous once or twice.

Play was fairly even in the first half, and Guy's were unlucky not to score in the early part of the game, as they were very near doing so on several occasions.

Old Charlton had some useful forwards, who broke away smartly and, after being repelled by the defence, they persevered, and before half-time had a lead of 2—1, Jelly having scored for the Hospital.

Guy's now played down the slope, and, after defending desperately for some minutes, the forwards were sent off with a pass from Archer to Trethowan; Trethowan passed to Jelly, who put the ball just right for Dryland to score with a hard shot.

Scores now remained level for some minutes. Old Charlton pressed hard, and had their passes been directed to the centre instead of to the wings they might easily have scored. However, feverish tackling back by the Hospital arrested some dangerous attacks, and soon the forwards got

going fast. Trethowan had bad luck with some of his first-time shots, which went wide of the goal, but his tireless efforts were rewarded when, after a beautiful pass from Jelly, he scored the winning goal for Guy's.

Franklin, who got clean away on his own, just failed to beat the goalie, and Phillips, after a run down the right wing, only just missed the cross-bar with a well-directed shot from the " tram-lines."

We were indebted to Dr. and Mrs. Poulton, who came to watch the game, and Guy's found their support most encouraging.

Team.—H. V. Brown; A. C. Greene, C. A. Boucher; R. C. Hill, R. G. Archer, A. E. Loden; C. H. Phillips, J. W. Dryland, G. O. Jelly, L. N. Trethowan, J. B. Franklin.

1st Round Inter-Hospital Cup

Guy's v. London

ON a very hard, frozen ground at Walthamstow on Monday, January 22nd, Guy's defeated the London Hospital after a thrilling game by 3 goals to 2. The ground was so white with frost that the game had to be played with a red ball.

In the first half play was very even and both teams did a fair amount of attacking. The Guy's forwards got away several times, and but for the timely running out and good judgment of Norman, the London goalie, they would have scored at least once. The same may be said of Brown, who kept goal for Guy's and saved some difficult shots, especially one in the first half, when the opposing inside left was completely unmarked in the circle, and his hard shot was stopped very well. Both sides had some desperate defending to do, and this was well done, as shown by there being no score at half-time.

After the interval there was still very little difference between the two sides, except perhaps that the Guy's forwards worked better together than those of the London Hospital. An incident worthy of note in the second half was when Brown had come out of goal, but did not have time to get back, Loden raced across from left half and saved a goal just in time.

After some minutes play a short corner was given against London, which Franklin hit, and from which Dryland endeavoured to score; the ball was going wide, but Jelly ran ahead and made it a direct pass from which he shot the first goal of the match. It was not long before a determined effort by London ended in their scoring to even things up. The whistle blew for time with the scores 1—1.

It was decided to play an extra ten minutes each way, so the sides changed over and play became keener and more exciting than ever. Sam Archer passed to Trethowan and, after a good run, Jelly got the ball and scored a fine goal high up in the net. Guy's now led for a few moments, but London again drew level, and the sides changed over for the final ten minutes with the scores 2—2.

Amidst tense excitement and enthusiastic shouts from the Guy's supporters the game continued. Dryland passed to Trethowan, he to Jelly, and Jelly back to Trethowan, who went on and scored the winning goal for Guy's. There were still several minutes to go, but Guy's managed to keep their opponents out and thus won a very exciting match.

It was unfortunate for Guy's that Richmond was unable to play through injury, but what we lost on the field we gained from the heartening shouts on the touch-line.

Team.—H. V. Brown; A. C. Greene, C. A. Boucher; R. C. Hill, R. G. Archer, A. E. Loden; C. H. Phillips, J. S. W. Dryland, G. O. Jelly, L. N. Trethowan, J. B. Franklin.

Squash Rackets

ALMOST enjoyable day was spent on Sunday, January 21st, at the Wildernesse Country Club, near Sevenoaks, at the invitation of Mr. E. Pugh, who qualified in Dental Surgery at Guy's Hospital a few years ago.

He kindly extended the courtesy of the golf course to the team in the morning, and this was gladly accepted by four cheerful, if erratic, players—the remaining pair acting as caddies. The squash match was played in the afternoon, and was won by Guy's, 5—1. The team left in the evening after a very pleasant day.

The results were :—

M. A. Partridge beat G. Drichlen	3—2
C. A. Boucher beat Captain Blowey	3—1
R. A. P. Hogbin lost to N. Smith	1—3
C. G. Baker beat D. Marr	3—1
P. W. Clarkson beat A. T. Wilson	3—2
J. B. Blaikley beat E. Pugh	3—0

On January 23rd, Guy's played the Middlesex Hospital in the Inter-Hospitals competition and won 5—0. The results were :—

M. A. Partridge beat J. E. G. Pearson ..... 3—0
C. A. Boucher beat L. C. Martin .... 3—2
R. A. P. Hogbin beat A. B. Kekwick ..... 3—1
C. G. Baker beat R. J. Beggs .... 3—2
P. W Clarkson beat G. D. Hadley ..... 3—0

On January 25th, Guy's played the Jesters and won 4—1. The results were :—

M. A. Partridge lost to F. M. Strawson ..... 0—3
A. D. Willis beat G. M. Donner .... 3—2
R. A. P. Hogbin beat B. S. Cumberlege ..... 3—1
C. G. Baker beat G. de Clermont ..... 3—2
P. W. Clarkson beat C. R. Field .... 3—0

Hospital Information, etc.

Notice

BRITISH MEDICAL ASSOCIATION

(Metropolitan Counties Branch)

The Metropolitan Counties Branch of the British Medical Association has arranged for some years past during the Winter Session a special Address to the fourth and fifth year medical students and to recently qualified medical practitioners. Many of our readers will recall the very informative discourse which was given in March, 1933, by Mr. Wilfred Trotter, M.S., F.R.C.S.

The next address of this series will be given by Dr. R. G. Canti (of St. Bartholomew's Hospital) on "The Cultivation of Living Tissues," with cinematograph demonstration, in the Great Hall of the B.M.A. House, on Tuesday, March 6th, 1934. Tea and coffee at 5 p.m. Address punctually at 5.30 p.m. Dr. Canti has been engaged on researches of outstanding interest in this field of work, and his address is unique and should, therefore, prove to be a most attractive one. A personal invitation to attend the address will be issued at an early date to all concerned, and this invitation must be produced on admission to the B.M.A. House. We advise all who are eligible to attend to make a special note of the date and time.

Pass List

ROYAL COLLEGE OF SURGEONS.
FINAL L.D.S.
November, 1933.
PART II.

C. I. Hagger R. V. Hooper
H. L. P. Coetzer

Papers by Guy's Men

H. W. Barber. (1) Coincident lupus vulgaris and lupus erythematosus; (2) Symmetrical hyperkeratosis of the palms and soles. *Proc. Roy. Soc. Med.*, 1934, xxvii, 291-292, Sec. Dermat. 19-20.

Harold G. Close. The classification of the body constituents by water content (with chart). *Brit. Med. Jour.*, 1934, i, 98.

G. B. Dowling. (1) Erythema multiforme and erythema induratum; (2) Ringed lesion on forehead—Case for diagnosis; (3) Sycosis of the scalp with cicatricial alopecia. *Proc. Roy. Soc. Med.*, 1934, xxvii, 295-296, Sec. Dermat. 23-34.

L. Forman. Folliculitis decalvans (Quinquaud). *Proc. Roy. Soc. Med.*, 1934, xxvii, 293, Sec. Dermat. 21.

T. B. Layton. What can we do to diminish the number of tonsil operations? *Lancet*, 1934, i, 117.

—— An unusual appearance of the larynx. *Proc. Roy. Soc. Med.*, 1934, xxvii, 212, Sec. Laryngol. 2.

V. E. Lloyd and N. L. Lloyd. Circumcision and syphilis. *Brit. Med. Jour.*, 1934, i, 144.

P. McG. Moffatt (introduced by O. G. Morgan). Hole in the disc. *Proc. Roy. Soc. Med.*, 1934, xxvii, 300, Sec. Ophthalmol. 16.

W. M. Mollison. Case of suppuration in the right frontal sinus not revealed by X-rays; sudden death; large abscess in frontal lobe. *Jour. Laryngol. and Otol.*, 1934, xlix, 48.

John A. Ryle. Some alarming seizures. *Brit. Med. Jour.*, 1934, i, 89.

Appointment

B. R. Medlycott, M.B., B.S., Ophthalmic Surgeon to the Willesden General Hospital.

Change of Address

G. B. Palmer, Netherne Mental Hospital, Coulsdon, Surrey.

Birth

WHITTEN.—On January 12th, 1934, at 16, The Parade, Epsom, to Kathleen, wife of Maurice George Whitten, L.D.S., R.C.S. Eng.—a Daughter.

EDS. { C. G. B. / G. L. B. T.

GUY'S HOSPITAL GAZETTE

A Journal of Medicine, Surgery, Dentistry and Hospital News.

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PASSIM

FOR some time it has been general knowledge that Lord Nuffield, recently elected a Governor of the Hospital, had given £45,000 to build a new block for paying patients, and much interest has naturally been aroused as to where and when the building would begin to take shape. Matters, however, have moved quickly for such a large undertaking, and we are now able to outline the alterations of Hospital topography which the new block will necessitate and to reassure the querulous that these will begin very soon.

The new block is to be built at the south end of the " Park " now occupied by the Bermondsey and Rotherhithe War Memorial Ward for Children and the Venereal Diseases Department. To overcome certain difficulties concerning ancient lights and to allow for the possibility of future extension of the paying block the Governors have approved the purchase of the portion of the cottage property facing Newcomen Street which does not already belong to the Hospital. The V.D. Department is to be re-housed in the old Gynæcological Department, the Sisters' and the Nurses' Rooms, and the Record Room on the east side of the Out-Patient Hall and in the rooms which formerly comprised the Female half of the old Front Surgery. These are to be re-modelled to make a new V.D. Department, which it is obviously important to have actually in the Hospital, so that patients have the confidence that their treatment is private and secret. As the Department is largely financed by the L.C.C. it is necessary to obtain their approval of these alterations, and these are still waiting their sanction. The Out-Patient Sister's Room and an adequate room for storing Out-Patient Letters are to be built on the site of the present Back Surgery. This historic battlefield against the Streps. and Staphs. is to be transferred to the rooms now used once a week for Orthopædic Out-Patients, which are to be reconstructed to provide better accommodation for the septic cases, a welcome reform, long overdue. The Baby Ward is to be transferred to the north half of the present Bright Ward, which will be vacated as soon as the new paying block is completed. Here there will be room for a playground, and the balcony will be available for the children, while Bright Theatre and the adjacent rooms would make an admirable solarium. The south end of Bright is to be allocated for the temporary housing of the additional nursing staff which will be required for the increased number of beds in the new block.

The estimated cost of transferring the V.D. Department and reconstructing the Back Surgery and Bright, all necessary before the building of the new block could be contemplated, was estimated at £3,600. The Governors were unwilling to furnish this from the Hospital exchequer, but fortunately one of their number, Mr. J. Arthur Rank, has very generously guaranteed £5,000 to cover all contingencies. The way is thus paved, and only the sanction of the L.C.C. to the transfer of the V.D. Department, the purchase of the property in Newcomen Street, and the approval of the plans by the Court of Committees after comment by the Medical Committee, are needed before the work can begin.

The new block is to accommodate 45 patients, together with operating theatres, kitchen and other necessary offices and rooms. We have no doubt that it will be designed and fitted out, like all the other products of Lord Nuffield's generosity, in the most efficient and up-to-date style. It will

certainly be an advance on the new Out-Patient building, where test-tubes have to be laboriously boiled on a spirit lamp and electric light switches groped for adjacent to the hinges of the doors!

There may be some who feel that any advance in the Hospital should be made for the sick poor, for whom Guy's was founded, and not in the interests of the middle and upper classes. This is a short-sighted view for two reasons. Firstly, with the improvement of the L.C.C. medical services the sick poor stand less in need, and are actually deserting the Hospital, and in the future this and the other large London hospitals will exist primarily for their function as schools of medicine; and secondly, a paying ward not only makes money directly for the Hospital, but enlists the support and encouragement of those who can help it materially.

THERE has been in the last few weeks a violent controversy about the use of the barbituric-acid derivatives. Starting in prominent medical journals, the field of battle has spread to the lay press, no doubt striking terror into the heart of every patient who is ordered an hypnotic drug.

The position, briefly, is this. At the present time the barbituric-acid compounds do not come under the stringent regulations of the Dangerous Drugs Act; nevertheless, the pure drugs are only dispensed on the prescription of a registered medical practitioner. Certain combinations containing barbiturates can, however, be obtained by the public. Should the sale of these drugs be more carefully supervised, and should their use be restricted?

The dispute is not a new one. In 1927 a case of allonal poisoning brought these widely used hypnotics before the public eye, and before that medical men have argued the indications for their use. The fire has smouldered and broken out afresh lately, no doubt as a result of the vast number of proprietary derivatives which have flooded the market, and Sir William Willcox has drawn attention to their dangers and protagonises a less liberal usage.

Many eminent physicians and authorities on mental disease have entered the lists, and, on the whole, the weight of opinion is in favour of leaving matters as they stand—a view which we, personally, favour, as the barbituric-acid derivatives are extremely valuable drugs for the relief of sleeplessness and are in very wide use.

The objections raised are that they provide a ready means of suicide and that they are habit-forming. Dr. Gillespie has quashed the first of these by pointing out that statistics do not show any increase in suicide from barbiturate poisoning since the compounds came into more general use. He draws comparison with coal gas, a very efficient lethal drug which is accessible to all, and remarks that any means of suicide is liable to be followed by a crop of imitators, whether it be veronal or the more homely method of cutting the throat.

The latest issue of the *Lancet* contains a very pertinent letter from Dr. Ross concerning addiction. He compares true addiction, produced by the scheduled dangerous drugs, with the effects of the simpler hypnotics, and decides that the dangers attendant on the use of barbiturates is very small.

The effect of this dispute on the public is wholly bad. As it is, the average patient is wary of the sleeping draught, and looks askance at our less drastic means of relieving insomnia. This attitude has, quite rightly, been engendered by drug-addicts and cocaine fiends, but it should not be permitted to interfere with this very valuable way of easing uncomfortable nights. The drug addiction bogey hovering in the darkness of the sickroom is not likely to produce an atmosphere conducive to refreshing sleep, so our weapon is to some extent blunted.

Tightening laws concerning barbiturates means that they will be withheld in cases where their exhibition would be fraught with benefit. So let us continue to use them with a clear conscience so long as they remain inaccessible to the self-doser with patent medicines.

THE Hospital have entered the second round of the Cup by beating St. George's, and are playing the London Hospital on February 19th. If successful, they will then meet St. Mary's on the 22nd, and we hope to be in the Final, which will probably be on March 23rd.

AT a meeting of the Residents held on Monday, February 12th, Mr. W. G. Gill was elected President and Mr. M. J. McArdle, Vice-President, for the coming three months.

BY the courtesy of the Marquis and Marchioness of Londonderry Guy's Ladies' Association are holding an Afternoon Concert at Londonderry House, Park Lane, W.1, on Tuesday, March 6th, at 3 p.m., when H.R.H. The Duchess of York has graciously consented to be present.

There will be a programme of music, which is being arranged by Lady Morvyth Benson, The Hon. Mrs. Francis Rodd and Lady Bonsor.

A limited number of tickets at 30s. and 21s. may be obtained at the Appeal Office, Guy's Hospital, S.E.1.

Allergy and Asthma

By L. J. Witts, Esq., from the Asthma Research Clinic, Guy's Hospital

IT is the misfortune of a special clinic to lie off the main stream of hospital work and to fail both to give and to receive as much as it might in the corporate life of the hospital. It must be confessed that the main purpose of this article is to relieve my mind of ideas which have been secreted there during the past four years. But I sincerely hope that it will encourage interest in the work of the Asthma Research Clinic at Guy's Hospital, and perhaps attract the assistance of senior and post-graduate students, who would find work at the Clinic well repaid, for the study of asthma has contributed to the understanding of many common problems in the practice of medicine and the pathology of disease.

During the year 1933 there were 5,575 attendances at the Asthma Clinic, with about 450 new cases. Asthma is only one of a whole family of diseases which includes eczema, urticaria, hay-fever, certain forms of dyspepsia, and migraine—though it must be confessed that the paternity of migraine is somewhat debated. The incidence of these diseases and the suffering they cause must be very great. They are united by the fact that they are all more or less dependent on sensitiveness to protein substances such as milk, eggs, the various animal and vegetable dusts, in fact, a whole host of common things. On this account they are called " allergic diseases," and the proteins which evoke the symptoms are called " allergens." These proteins, which are so harmless to most of us, may act as veritable poisons to the unfortunate sufferer from an allergic disease. A cricket field on a June day, with a soft breeze tempering the hot sunshine, so pleasant a memory to most of us, is a nightmare to the man with hay-fever on account of the cloud of pollen in the air. And while many of us could not face a day that did not begin with bacon and eggs, there are some to whom this would be as bad a beginning as a dose of croton oil. Sensitiveness to protein substances, then, is the common factor which unites these seemingly diverse maladies and gives them their name of allergic diseases. But when we try to penetrate deeper into the meaning of this sensitiveness to protein and the way in which it may be controlled, we soon find ourselves in very great difficulties. It was on this account that I said these diseases were more or less dependent on sensitiveness to protein substances, and after this brief preamble I will open my subject proper.

In an analysis I have just completed of 500 patients who have passed through the Asthma Research Clinic at Guy's Hospital, the most striking differences between the asthmatic and the normal were, firstly, the frequency of protein hypersensitiveness, both as revealed by the cutaneous reactions and as manifested by its effects in the personal and family history, and secondly, the high incidence of morbid changes in the upper and lower respiratory tract. Many people hold the belief that asthma is the result of the general factor, protein hypersensitiveness, and the localising factor, damage to the respiratory tissues. In the same way, eczema is explained as the effect of protein hypersensitiveness and trauma to the skin, and migraine is determined by protein hypersensitiveness and an irritable cerebral cortex, the latter component being inborn or perhaps the result of nervous strain. I shall deal later with these theories, which are a persuasive but, I think, incomplete explanation of the disorders in question. I shall not discuss at any length the respiratory factor in asthma, for it is generally agreed that operations on the nose produce little permanent benefit, while treatment directed at the lower respiratory tract, whether by inhalation therapy or respiratory exercises or vaccines, has only a qualified success. It is my intention in this paper to discuss the theory that asthma is based on protein hypersensitiveness or allergy, its applications, and even more its limitations.

The high incidence of other allergic diseases among asthmatics, the frequency of asthma or other allergic diseases in the family history, and the considerable percentage of cases in which positive skin reactions can be obtained, are facts which have been proved without a shadow of doubt. The evidence has been so ably summarised by Bray in his book and elsewhere that I need only stress my agreement. No asthmatic has been properly investigated until a careful history has been taken with special reference to possible excitants of the paroxysms, and until skin tests have been performed with the proteins to which asthmatics commonly react. It is folly for a feather-sensitive child to sleep on a feather pillow, or for an orris-sensitive woman to use ordinary brands of face powder. The conception of asthma as a hereditary allergic disease has done much to aid understanding of the symptoms and has promoted their alleviation. But, to quote words used by Minot in another connection : " To give a name to a morbid condition accomplishes but little in itself. Nosography is one of the

means that aids to our understanding disease, but our first aim is to acquire knowledge concerning ætiology and concerning the consequent development and effect of the morbid process, so as to be able to apply proper corrective measures."

We still know very little concerning the mode of development and effect of the morbid process in asthma, and in most cases are unable to apply satisfactory corrective measures. There is an unfortunate tendency for allergy to become a pure specialty, which in America at any rate already has its exclusive practitioners and its separate journals and societies. I call this tendency unfortunate for two reasons. Exclusive specialism withdraws the fruitful idea of allergy from general medicine, and, in consequence, many of us are slow to appreciate the part played by protein hypersensitiveness in disorders of the nervous system, the digestion, and the upper and lower respiratory tracts. On the other hand, the allergist seems to suggest that all is known about the pathogenesis and treatment of a disease when it can be shown to be associated with protein sensitivity, and he seems to regard the patient simply as an area of skin, on which cutaneous reactions can be performed and through which desensitising agents may be injected.

In the earliest years of bacteriology the vaccine for rabies and the antitoxins for diphtheria and tetanus were discovered, but 50 years later we are unable greatly to influence the course of most infectious diseases. The first manifestation of protein hypersensitiveness clearly isolated was hay-fever or pollinosis. By expert treatment with massive and expensive doses of pollen it is to-day possible to ameliorate the symptoms in about two-thirds of patients with hay-fever, and to give complete relief in about one-third. Treatment must be repeated for several years for any lasting relief to be obtained. There is no other allergic manifestation in which the results of desensitisation approach in success those of hay-fever, and my own experience of attempts at specific desensitisation in asthma has not been encouraging. Let me enumerate a few of the obstacles to the view that the treatment of an allergic disease consists in discovering the substance to which the patient is sensitive and desensitising him to it.

1. *The multitude of potential allergens.*—There are innumerable different proteins to which an asthmatic may become sensitive. In a recent textbook Bowman and Walzer devote nearly a hundred closely printed pages, which they modestly describe as only an elementary analysis, to listing the " pertinent information concerning many of the common atopens " (allergens). Every month sees articles adding to the list of substances which have caused allergic symptoms and including such bizarre things as mayflies and pessaries. Always there is the problem of asthmatics in whom no skin reactions have been demonstrated—perhaps 20 per cent. of the total—and the flora and fauna of the home and the surroundings are searched over anew. The following quotation is from an able American worker, though the italics are my own :—

" Sensitisation to fungi must take its place along with sensitisation to pollens, animal epidermals, foods and bacteria in the causation of asthma, eczema and other related allergic conditions. . . . Fungi, in addition to moulds and yeasts, include rusts, smuts, mushrooms, etc. The moulds have been classified into five families, with *several hundred genera and thousands of different species. From the viewpoint of allergy, this is a vast, unexplored field.* . . . all the different fungi that could be cultured from patients' skin lesions, sputum and nasal secretions, stools, and environmental dusts (house and mattress)."

One cannot help feeling that the field is likely to yield a richer harvest to the physician than the patient.

2. *Multiple sensitisation.*—Multiple sensitisation is present in two-thirds of our patients with positive skin reactions.

3. *Difficulty of interpretation of skin tests.*—The extreme variation in the percentage of asthmatics found to give positive skin-reactions by different techniques is only one difficulty. A patient may have positive reactions to substances which do not affect him clinically and negative reactions to substances which do—pollen reactions have been observed in patients without hay-fever, and negative skin reactions to pollen in patients with hay-fever. Skin tests tend to persist after clinical hypersensitiveness has disappeared, and they often represent " past history rather than present illness." Negative skin reactions are rather frequent in patients who are food-sensitive and develop severe indigestion, Henoch's purpura or eczema whenever certain foods are eaten. So often is this the case that it has led to the belief that sensitisation may be confined to the cells of the alimentary tract. On the other hand a fair number of normal people, who have never had clinical manifestations, give positive reactions to foods intradermally introduced.

4. *Difficulty of desensitisation.*—I have already mentioned that my experience of specific desensitisation has not been happy. Freeman and Bray attribute such failure to inadequate dosage of the offending protein, but the fact remains that desensitisation will always be a matter for the expert physician and the patient with plenty of

time or money, and will never be of much value in so common a disease as asthma. The alternative to desensitisation is avoidance of the offending protein, and this is frequently quite impossible.

5. *Persistence of the morbid diathesis and development of new sensitisations.*—In asthma, single sensitisation is unusual, specific desensitisation is arduous, and the relief of asthma by specific desensitisation is rarely more than transient. While the patient is being desensitised to one allergen, fresh sensitisations may develop. The child is sensitive to foods, the young adult to pollens and animal emanations, the older asthmatic to house-dust, bacteria and climatic allergens. Rackeman recently surveyed the results of treatment in 1,074 asthmatics. Only 213 had remained free for two years and only 131 (12 per cent.) for six years. Children who had been food-sensitive had lost this disability, but had become pollen sensitive. Others had become dust-sensitive, and others again had developed sinusitis. Cases beginning as hay asthma and temporarily relieved by pollacine were now having asthma from other causes in the winter months. "Cure is accomplished by removal of the trigger which fired the attack, but obviously the gun remains loaded in most of the cases. . . . Observation of patients over long enough periods shows that they tend to develop sensitiveness to new substances in the environment."

The final demonstration of the bankruptcy of modern developments of the allergic hypothesis of asthma was left to van Leeuwen, who devised hermetically sealed rooms, which were fed with filtered air and in which the asthmatic might live free from asthma on *en pension* terms—a freedom which was only temporary, as relapse occurred as soon as the patient breathed again the air of everyday life. When theories of disease end in such a *cul de sac* it is advisable to turn back to the study of the patient and see if some more promising aspect of the problem has not been missed. It is difficult to believe that the treatment of asthma will be much advanced by the discovery of fresh allergens or by the elaboration of methods of specific desensitisation analagous to the pollacine treatment of hay-fever. The more interested I become in allergic disease the more I am impressed by the frequency of latent allergy in the general population, and by the variations in the severity of overt allergic diseases such as asthma, eczema and migraine, which may occur spontaneously or as a result of treatment, but which seem to be unconnected with any change in the degree of exposure to the allergens held responsible for the symptoms. The two phenomena are probably related.

The frequency of latent allergy in the general population is a question which Dr. R. S. Bruce Pearson has been studying for a long time, and I must leave any detailed exposition of it to him. But anyone who will take the trouble to inquire amongst a chance circle of acquaintances will be surprised at the number of apparently normal people who at some time or other have suffered from symptoms of protein hypersensitiveness, such as urticaria, rhinorrhœa or migraine, or who have learnt to avoid some food or other, ingestion of which always gives rise to nausea and vomiting, diarrhœa, colonspasm or other symptom of alimentary allergy. Vaughan puts the number of such cases at 70 per cent. of the population. Moreover, Bruce Pearson has found that over 20 per cent. of the students who enter Guy's Hospital give positive skin tests to significant dilutions of common proteins. Protein hypersensitiveness is far more widely diffused among mankind than has hitherto been appreciated, and the asthmatic differs from many of his healthy fellows only in the severity and persistence of the manifestations of this sensitiveness and not in any hereditary defect of equipment. Bruce Pearson concludes: "It seems, therefore, that the development of a mild degree of sensitisation is a normal condition in children when they are exposed to a new protein. Often the sensitisation is sufficient to give positive intradermal skin reactions. It is only rarely sufficient to cause symptoms. Usually it is transient and disappears, leaving no trace. A mild degree of sensitisation often persists in healthy individuals, so that positive skin reactions are given though there are no symptoms of allergy. . . . What is pathological is not the development of sensitiveness, but its persistence in an exaggerated degree."

The frequency of latent allergy in the general population is probably responsible for the common occurrence of acquired or occupational allergy. When I was a house physician at Brompton Hospital, I had to treat large numbers of fur workers and tailors who came from the East End of London complaining of asthma and emphysema. Moll has shown the frequency of sensitisation to wool amongst workers in the textile industry in Yorkshire, a sensitisation which in some develops in a few weeks, in others only after many years, and the Medical Research Council has reported on the frequency of bronchitis and asthma among cardroom operatives in the Lancashire cotton mills. Vasomotor rhinitis and asthma are so common amongst bakers that they are regarded as a troublesome, if not serious, occupational hazard; they are associated with sensitisation to wheat, which may be demonstrated both by the

ordinary cutaneous tests and by the Prausnitz-Kustner reaction. Many other examples of the same kind could be quoted, such as the sensitisation to laboratory animals sometimes experienced by medical technicians, but I need not stress this point further. It is clear that latent allergy may become overt as a result of occupational strain. The difference between the asthmatic and the normal does not seem to be anything like so fundamental as the difference between a hæmophiliac or an alkaptonuric and the normal. There are all grades of severity from the infant who develops asthma in the first days of life to the man who begins to wheeze after 30 years' work in an atmosphere laden with cotton dust.

So far I have shown that the capacity to become sensitive to protein substances in the environment is so frequent as to be almost physiological, though in the great majority of people it is manifested only by isolated symptoms, or revealed only by cutaneous tests or by the detection of eosinophilia in the blood. I have also shown that the exposure to the offending protein necessary to produce symptoms varies greatly, and in many cases must be prolonged and severe. These phenomena make me doubt whether protein hypersensitiveness is the sole factor responsible for asthma and allied diseases. Observation of the life history of asthmatics raises the same doubts, and prompts the question whether there is not some other factor, whether of a humoral or cellular character I cannot say, which decides whether symptoms shall or shall not appear.

One observation is that the severest cases of asthma are often those in whom evidence of protein hypersensitiveness is least obvious. Three of our patients at the Asthma Clinic are known to have died in *status asthmaticus*. In all of them the disease began in adult life, there was no family or previous history of asthma or allied allergic states, and the routine skin tests were negative. It is difficult to harmonise such cases with the theory that asthma is a hereditary dystrophy, characterised by inability to deal satisfactorily with the proteins with which the organism comes in contact. A second observation concerns the spontaneous remissions in asthma, sometimes of many years' duration. These may occur without any detectable change in the patient's environment or habits, though they are perhaps more frequent at certain physiological epochs such as puberty and pregnancy. Equally mysterious exacerbations of the disease unfortunately occur. Remissions may also be brought about by hospitalisation, change of climate or pyrexia, and at such times some asthmatics can be exposed with immunity to allergens which in other circumstances unfailingly induce a paroxysm. Finally, one may refer to the relief of asthma and the temporary abolition of the cutaneous reactions by strong emotions and by adrenaline and other sympathomimetic drugs. Surely these observations must mean that asthma is not the inevitable result of exposure of an allergic subject to the proteins to which he is sensitive, but that it is conditioned by and dependent on changes in the internal environment of the organism. In fact, some people think that the allergists have got hold of the wrong end of the stick altogether, as, for example, Burn, who writes :—

" I am bold enough to go further and briefly mention what I have no time to develop to-day, that is the suggestion that the allergic state in general is not due to the presence of unusual substances in the blood, but is due to deficiency of the amount of adrenaline circulating in the blood. It is known, for example, that all skin reactions are difficult to obtain if adrenaline has been injected during the hours preceding the test. May it not be that all these reactions are due to the liberation of histamine from damaged cells under circumstances in which histamine would not be liberated if a normal amount of adrenaline was circulating in the blood ? "

I do not think I would go as far as Burn and attribute the pathology of asthma entirely to a biochemical or humoral defect. The ætiology of a disease is not always a single unit. In the study of anæmia (which I hope is not becoming a King Charles's head for me) we have come to speak of *conditioned deficiencies*. Pernicious anæmia may be produced by a grossly defective diet, but it does not actually arise unless gastric digestion fails. Failure of the secretion of hydrochloric acid by the stomach predisposes to hypochromic anæmia, but this predisposition remains latent in men, and is only manifested in women, who are subject to the strain of the monthly loss of blood and pregnancy. Diseases of bone may sometimes be cured either by increasing the amount of lime salts in the diet or by keeping the diet constant, and supplying vitamin D, which enables the organism to use more efficiently the lime salts which are already being supplied. In the same way, in asthma and allied diseases, I believe there is a biochemical or humoral agency, which corresponds with the intrinsic factor of Castle in megalocytic anæmia or with vitamin D in rickets, and which determines whether allergy shall be latent or manifest. And just as in megalocytic anæmia we have the two extremes—tropical nutritional anæmia, in which the external or dietary factor is the all-important cause, and Addison's anæmia, in which the internal or in-

trinsic factor is the all-important cause; so I think we can recognise similar extremes in asthma. I have already spoken of the contrast between frankly allergic states such as a hay asthma confined to the pollen season, and those dreadfully chronic and often fatal examples of asthma in which protein hypersensitiveness is almost impossible to detect.

The conclusion of a paper about a disease whose pathology is obscure and whose treatment is unsatisfactory must inevitably be lame and halting. But I am not so hopeless about the solution of the problem of asthma as I should be if I were a wholehearted allergist, and I feel sure that it will come in biochemical and not on the old-fashioned immunological lines. The similarity between the effects of histamine and the symptoms of the allergic diseases; the resemblance of the action of adrenaline in asthma to proved substitution therapies such as insulin in diabetes, and the new knowledge of chemical mechanisms of the automatic nervous system, which Spurrell has so clearly discussed in a recent paper here; all these seem to be pointers to the line of attack. At the Asthma Clinic we have our feet in both camps, we are studying both specific and non-specific desensitisation, and we have made a tentative beginning at analysing the humoral factors involved. Hitherto our work has been destructive rather than constructive, but it seems probable that research in the experimental laboratory may soon forge new weapons which we shall find more efficacious in the treatment of asthma than those we have inherited from the past.

The Residents' Play—"The Wicked Warden"

RESIDENTS' Plays are like English butter, good, better and best, but never just butter. This one is definitely of the last brand. Rendered harmonious by De Gruchy, the union of Bishop and Reading has been blessed with many distinguished offspring, and this is the best of a distinguished family. May their tribe increase! The play may be described as a Morality Play, wherein Virtue and Vice strive for the mastery and ultimate victory falls to Virtue after superhuman trials.

The curtain rose with the sun shining brightly in the Park, but it could not outshine Sister Brighton and her dazzling lambs, who, full of Spring and Sunshine, gambolled in the Nurses' enclosure as they sang of their innocent affections for the Staff.

Presently an obstinate pricking of one's thumbs apprised us that Evil stalked abroad. The sun burned with less warmth, the singing ceased, the flowers wilted and died, as One appeared whose face was lined with unrepentant Vice. It did not need a furtive glance at the programme to realise that this was the Wicked Warden. Even the most innocent member of the audience could see this at a glance, but love is blind, and Sister Brighton's face lit up at the sight of Dronydear. Drony, however, now had other fish to fry, and had no time to spare for dalliance. Alone once more Drony, with that facility for rhyme common to scoundrels of his type, informed us of his love for Nurse Soneryl, whose purity and innocence were no protection and only served to fan his passion. At this opportune moment Soneryl herself appeared, a damsel of solid attractions and ample allure. Poor child! Will no one warn her? Alas, what does such as she know of wicked men like this! So, flattered by the attentions of one so exalted, she showed unmistakable signs of attraction to Drony, when Evipan, a brilliant young Surgical Registrar, appeared in the nick of time, as is his heroic custom, and warns the Warden to desist. How could Soneryl even, for a moment, turn from this young god, whose handsome face glowed with the colours of unsullied Virtue, whose every word was noble, whose every thought was pure! How incomprehensible are the workings of the human heart! Soneryl remained deaf to his pleading. Evipan, fighting a losing battle, appealed to Soneryl to remember her family tradition that she should be a surgeon's bride and, summoning up all that he could remember of the melodies of Gilbert and Sullivan, sank on one knee and sang :—

Here upon my knees I pray you, Darling Soneryl, take your choice.
While with awe we both survey you, seal our fates with your sweet voice.
Which of us do you desire, ripe physician, youthful swain?
Are you bent on climbing higher false ambition to attain?
Should you contemplate such folly, take my warning while you may;
Though you think it would be jolly, dressed up like a popinjay.
Life deprived of joy can never lead to happiness or joy.
When your bonds you cannot sever you will heed your love-sick boy,
Then in tears you will remember how your trust you have betrayed,
Loathing in the chill December of your life the bed you've made.
You will wish you'd never faltered, never tampered with your life,
For Tradition can't be altered; you must be a surgeon's wife.

What does the sweet child answer? Heavens!

Soneryl—
It is my great ambition to be a surgeon's bride,
But only on condition it furthers family pride.
A surgeon I would marry
If Staff rank he did carry;
Society, position, and wealth shall be my only guide.

Soneryl—
It is my great ambition to be a surgeon's bride,
But when a great physician is kneeling at my side
I find that I am tempted
To hold myself exempted
From heeding this tradition I should be a surgeon's bride.

Sister Brighton and two of the "gals"

Innocent child!
Now Vice has his innings :—

Dronydear—
Here upon my knees I pray you, Darling Soneryl, make your choice.
Choose me and it will repay you, though in Surgery I don't rejoice.
Rather wed a doting Warden than a starving Registrar.
Life with me your views with broaden, nor your youthful pleasures mar.
I am quite a gay old crony, and I like a bit of fun.
All my friends say, "Look at Drony, really isn't he a one!"
Wealth untold on you I'll shower, guard you with the tend'rest care,
Like some dainty hothouse flower, shield you from the chilly air.
Pearls and diamonds shall adorn you, linen sheets upon your bed.
Mixing with the highest born you'll proudly raise your haughty head,
And, in condescending manner, watch this boy's pathetic strife;
Safe beneath the Warden's banner, glad you're not a surgeon's wife.

The sweet child retires, presumably to find out about Drony's bank balance, while Evipan and Dronydear quarrel as to the state of her affections. Evipan, whose strongest charactersitic is a firm belief in the ultimate reward of Virtue, retired to a place apart in which to continue being virtuous while awaiting his triumph: "I shall be elected a Surgeon to-day and Virtue shall be rewarded with wedding bells." Dronydear is not dismayed; he has a plan, and the pure air left by Evipan becomes thick and green with the force of his evil thoughts as the curtain falls on his demoniac laughter.

Hardly had the echoes died away before the curtain rose again on the Medical Committee Room, where the Staff were assembled to elect a Surgeon. The Sugeons' minds were made up; Evipan was their man, and since he was the only candidate who could stop him? "Aha!" snarled the Warden, taking the chair with a devilish leer at the horrified audience. Heavens! What

villainy was afoot? We had not long to wait, for Drony revealed himself as an eleventh-hour candidate for the vacancy. The Surgeons' derisive laughter found no echo in the Physicians, who see in Drony the realisation of their dreams. At last in very truth an operating Physician. The erstwhile harmonious meeting breaks up into rival factions :—

Dronydear—

The voting must now proceed
With dignity and dispatch.
My words you will kindly heed
And suitable weight attach.

The candidates are but two,
Myself and that Evipan.
I don't wish to bias you,
But vote for me if you can.

Physicians— We'll vote for him to a man.
Surgeons— And we'll vote for Evipan.
Dronydear— Oh, vote for me if you can.

Ogle-Me—

Technique is the attribute
On which I shall choose my man
And no one would dare refute
The technique of Evipan.

Decameron—

My views are conservative.
The use of the knife I fear
A false sense of power would give
To any but Dronydear.

Physicians— Conservative Dronydear.
Surgeons— Non-Surgical Dronydear.
Dronydear— Adaptable Dronydear.

Gassie—

My vote I am glad to see
Will finally win this war.
For Drony the votes are three,
But I'll make the surgeons' four.

Surgeons— His vote we are glad to see
Has finally won the war ;
Physicians—For Drony the votes are three,
Surgeons— But Evipan's now are four.
We really need say no more.
Physicians— We're sure there must be some flaw.
Dronydear— You haven't yet won this war.

Dronydear—

My vote I will now record.
My victory now is near.
I know you will all applaud,
For I vote for Dronydear.

Surgeons— And we are with one accord
Determined to interfere.
The Chairman cannot record
A vote for himself, that's clear.

Physicians—It does seem a trifle queer.
Surgeons— Of course it's a trifle queer.
Dronydear—It's not in the least bit queer

What inhuman duplicity! But even now it's a deadlock—four votes all. But reeling Virtue is given a *coup de grace* by Drony, for with incredible unscrupulosity, he exercises his casting vote as Chairman of the meeting, and declares himself elected to the Surgical Staff, and for the second time the falling curtain quivers with his evil laughter.

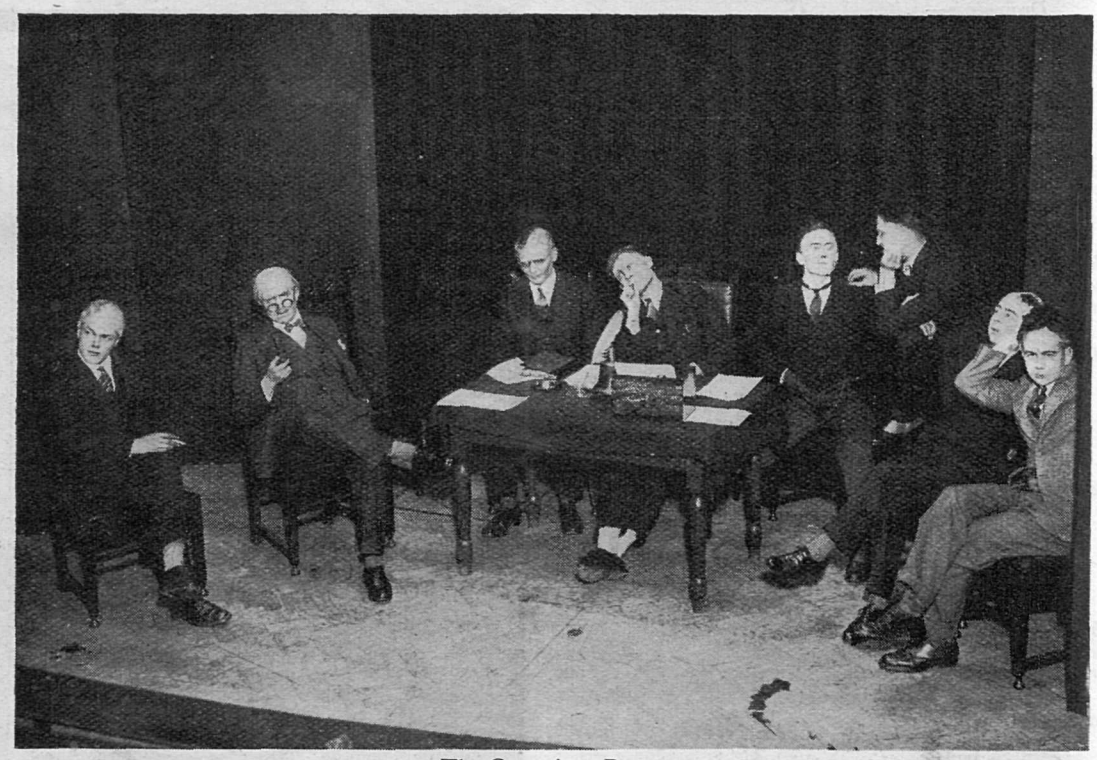
The Wicked Warden Proposes

The next act opens in Brighton Ward, where Dr. Dronydear, the new Surgeon, is to exercise his skill for the first time. Sister Brighton's beauty chorus are found busily preparing the ground, while Dr. Decameron philosophises to himself and lovely Soneryl. They leave the field empty for the Wicked Warden, who entered flushed with triumph, but inwardly quaking at the prospect of his first operation. Most unexpectedly Jibbie, a Professor of Chemistry, shot out of Sister Brighton's room on to the stage in a very dishevelled condition, while recriminatory noises follow him through the open door. Dronydear, not unnaturally surprised, asked the reason

for his unaccountable appearance in Brighton, which is not made the more plausible by Jibbie's time-honoured excuse that he had come to see a relative. Throwing discretion to the winds, Jibbie declares his unrequited passion for the beautiful Brighton, and implores Drony's aid in furthering his suit. Beware, Professor, beware! Alas, infatuated man, he placed his scientific skill

Dealing with the private patients,
Smoothing down their damned relations,
Calls for wit and tact;
But really, really,
Those are things I've never lacked.

When you come to Bright to operate,
Mind your stories are polite;
Ribaldry a gal can't tolerate,
That's Sister Bright.



The Committee Room

Shoes Baby's-Brollie Decameron Dronydear Samson Thirst Gassie Ogle-Me

at Drony's disposal in return for his infamous assistance. Vice is ever on the watch for what may further its fell designs, and Drony reconciles Jibbie and Sister Brighton and all tread a stately minuet in token of their reconciliation. The Medical Committee arrive to see their latest Surgeon operate, and sing with their charming hostess :—

SISTER BRIGHT'S SONG

Look at Sister Bright,
Her charm and grace and dignity;
Look at Sister Bright,
Her air of calm benignity
Mesmerises any who meet her.
All the same, there's no one who's sweeter,
Always in the right, is Sister Bright.

Keeping surgeons in their places,
Putting nurses through their paces,
Fools I can't abide;
They nearly, nearly
Drive a gal to suicide.

Tea and coffee's always going,
Though there is no means of knowing
Whom to cater for;
I merely, merely
Wave a hand and send for more.

Send them into Bright,
Those patients with neurotic pains.
Send them into Bright,
Those dreadful icthyotic blains.
Even those with cholecystitis,
Tummy-ache or pancreatitis,
View her with delight, our Sister Bright.

while Drony boldly enters Brighton Theatre with the faithful Jibbie in attendance. Presently the pair steal back and consult a text-book which had been concealed for the purpose. So far so good. Aha! But soft, where has Virtue been hiding all this time? Here he comes, and the air seems purer for his appearance. Has he seen the guilty

pair? He has, and, what is more, this time Virtue crosses swords with Vice, and he changes the book. With a look of conscious rectitude he awaits the results of his high-principled strategy. He had not long to wait, for Drony rushes in to find out the next step in his operation; he has reached the inside of the abdomen and doesn't know where to go. Jibbie reads the book: "Tighten the gaskets, drain the sump." Heavens! The wrong book! With muttered curses Drony rushes desperately back to the theatre. Noises of gradually rising excitement are heard in the theatre as deeper and deeper he plunges his uncertain knife, when at last his headlong way is barred by a large pulsating tumour. With never a minute's hesitation he stabs it with an impetuous scalpel. There is a sound as of the rushing of many waters, and Drony rushes in covered with blood and confusion. While the Surgeons are vainly striving to staunch the bleeding, the Physicians are upbraiding the Wicked Warden for betraying their trust, and meanwhile the patient is rapidly sinking. "Who will save him?" says Soneryl. "I will," says Evipan, turning back his immaculate cuffs while the Warden snarls impotently in his corner. Evipan's efforts and surgical skill are crowned with success. The Staff, filled with enthusiasm, rush off with the avowed intention of forming a Sub-Committee to depose Drony and elevate Evipan. Soneryl, sweet child that she is, transfers her heart once more to Evipan's keeping. Is Vice then knocked out for good? No, sir! There is one more act, and Vice has still some trump cards to play, and, while Soneryl and Evipan indulge in chaste caresses, the Wicked Warden, his love now turned to hate, screams for help and, with every appearance of reality, accuses the loving pair of having assaulted him in an access of madness. Vice triumphs again and Virtue is banished with Soneryl to the Strong Room.

The Minuet in Bright

Jibbie Sister Brighton Dronydear

The last act opens in the Strong Room, where Evipan and Soneryl are discovered shackled and disconsolate. Fortunately they are not gagged, for they sing of their mutual love:—

Chorus—

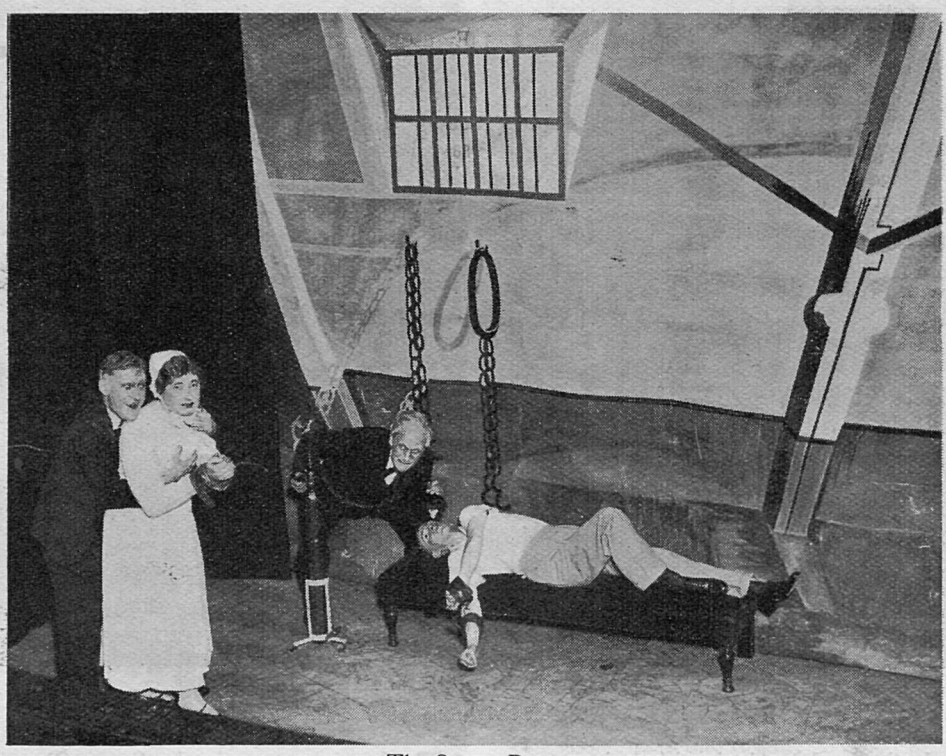
Though darkness surrounds us,
Though gloomy is our sentence,
Though Drony confounds us,
We'll never plead repentance.
We love one another, what more can we ask?
So long as we share our fate.

Though stormy the weather,
No thunder can alarm us,
For when we're together
No wicked foe can harm us.
We love one another, what more can we ask?
So long as we share our fate.

Our unanimity
Leads us from strength to strength.
Pusillanimity
Shall be discomfited at length.

Then birds will be singing,
And flowers will be blooming,
The bells will be ringing,
My name you'll be assuming.
We love one another, what more can we ask?
So long as we share our fate.

Hardly have they finished a step-dance which naturally concluded this effort than the sinister pair, Drony and Jibbie, creep in. Their foul purpose is soon revealed; not for nothing is Jibbie a Professor of Chemistry. "Marry me, Soneryl," hisses Drony, "or Evipan shall perish before your eyes." "Better death than dishonour," says Evipan, virtuous to the last. "Never, never," reiterates Soneryl. Drony's stony heart is unmoved, and he orders the Professor to give Evipan "the works". "Must I?" pleads Jibbie, more weak than wicked, but Drony threatens to break his neck, and Jibbie yields to the application of physical violence and turns on the tap of his cylinder of poison gas, explaining with the utmost politeness to Evipan that when the gas attacks the nervous system the human frame is shaken by bursts of laughter. The gas works swiftly, and when the dread symptom first appears Soneryl faints into Drony's arms. The sweet child! The villain is about to embrace his helpless captive when Sister Brighton, entering suddenly, takes the situation in at a glance and, raising the six-shooter she always carries, she fires at Drony. Twice she fired; was one for Drony and one for Soneryl? Who knows? At all events her intentions were better than her aim, for the curtain rose again almost immediately on the Surgeons' Room where Drony and Jibbie were discovered intact and still pursuing their nefarious career. Drony is now a desperate man; the Surgeons must be removed before they can depose him from the Staff. Alas! Jibbie is now nearly as wicked as his instructor, and, with Evipan presumably dead, Sister Brighton locked in the Strong Room and cylinders of gas all ready to bump off the Surgeons, life seems good to Drony



The Strong Room

Drony Soneryl Jibbie Evipan

and Jibbie, so much so that they make no secret of their disgraceful plans :—

THE BOLD BAD MEN

With poison gas and chemicals
Our treacherous plot we pursue,
With sulphur and arsenicals
The Surgical Staff we'll subdue.
They'll suffocate and strangulate,
They'll incubate and desiccate,
They'll fulminate and supplicate,
But we'll have no compassion,
We'll bang 'em and we'll bash 'em,
We'll fumigate and spifflicate,
Decorticate and vesicate,
We'll vindicate our syndicate ;
We're determined, we'll eradicate the
Surgical Staff at Guy's.

Chorus—
We're bold bad men,
Completely stony-hearted.
What's more, we won't be thwarted.
We're bold bad men.
We'll see the surgeons die before our eyes.
We'll lie in wait,
And watch their fate.
Oh, what a joke to see them choke.
Triumphantly we'll laugh as each one dies.

With H_2S and formalin our murderous plan we'll achieve ;
With bitters and amygdalin their confidence we will deceive ;
We'll atomise and alkalise,
They'll peptonise and polarise,
Decolorise and oxidise,
The gas will grip their gizzards.
We chemists are fiendish wizards.
We'll patronise and then chastise,
We'll victimise, then in disguise
We'll tantalise their streaming eyes,
We'll supervise the quick demise of the Surgical Staff at Guy's.

The Bold Bad Men

They hide in the cupboard, leaving the tube of the poison gas cylinder outside, as the Surgeons troop in from their Committee meeting. Gassie trips over the hissing tube and throws it into the cupboard and locks the door. The Surgeons are moved to song, and gradually their singing becomes more and more hilarious as the gas attacks their brains, but, loud as is their laughter, it does not exceed the cachinnations of painful mirth which rise at intervals from the cupboard where the villains are reaping at last the rewards of Vice. Evipan, in the nick of time snatched miraculously from the grave, together with the faithful Soneryl and Sister Brighton, dash to the rescue, and the doors and windows are thrown open in time to save the helpless Surgeons. But in the cupboard all is now silent ! Intrepid Evipan throws open the door, and the bodies of the arch-villain and his dupe fall into the arms of the resuscitated Surgeons. Virtue has indeed triumphed, and the Devil appears in person and claims his own and disappears with them to another place in a cloud of smoke, while Soneryl, that sweet child, once more gives her heart to Evipan when she finds he is elected by acclamation to the Staff :—

FINALE

So Vice, in a trice,
Has been overcome by Virtue's aid.
They go, down below,
At degrees 200 Centigrade.
The Staff now can laugh,
Through the part the noble hero's played,
He saved the lot from a fall.

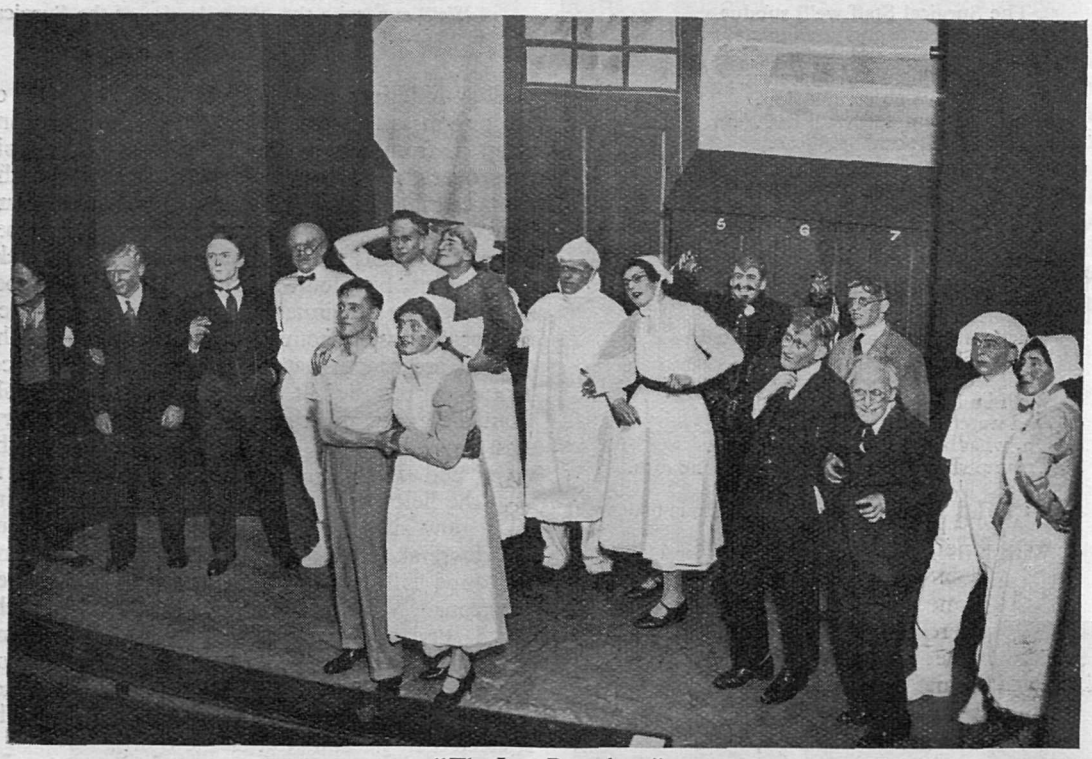
And now for our bow,
For our little play's come to an end.
We hope that our jokes
Have amused you all, but don't offend.
You know we must go
For our faces we must all amend.
A very good night to you all.

This play demanded considerable acting ability on the part of the cast, and in this the authors and producers were very fortunate. Baker, who had a very long and difficult part, was admirable as Dr. Dronydear, and Falconer's appearance as Professor Jibbie was the best piece of acting I

have seen for a long time. These two worked very well together, and their dance in the last act was a thing to remember. Payne was excellent as the hero, and Bowen-Davies made the best of a rather thankless part. Gill and his beauty chorus made a particularly alluring quintet, and Clarke as Joey Shoes, Drummond as B-B., M. J. McArdle as Gassie, and B. McArdle as Ogle-Me were very recognisable impersonations of their surgical prototypes. Grocott was larger than life as Dr. Samson, and Ratcliff and Colbeck were excellent as Dr. Decameron and Dr. Thirst respectively.

There was, perhaps, less dancing and singing than in some other Residents' Plays, but De Gruchy's music was very good, and "Though darkness surrounds us" and "The bold, bad men" are destined to haunt the bathrooms of the College and Nurses' Home for many moons. The singing was on the same high plane as the acting, and the trio of Evipan, Soneryl and Drony was extremely successful. Bishop and Reading were fortunate in having a cast with so much talent and enthusiasm, and the cast were fortunate in the play which these two indefatigable producers and writers provided for them.

The scenario did not afford very much scope for Tomlyn's inventive talents, but he made the most of his opportunities in the Park and the Strong Room scenes. Prodigious feats were performed with the lighting by Hogbin, and the unusually efficient back-stage management was so well organised by Hector Cameron, Willie Clarkson and their assistants that the Staff had hardly time to gulp their lime drinks, so short were the intervals. From start to finish, in front and behind the scenes, this was a very finished production.



"The Last Round-up"

Notice

Guy's Hospital Musical and Operatic Society

This Society has decided to give four performances of Gilbert and Sullivan's Opera "Ruddigore" on November 28th to December 1st next, at the Fortune Theatre. Although it is early to think about tickets, it is hoped that all Guy's men will bear the dates in mind and guarantee its financial success.

Rehearsals will commence on Tuesday, March 6th, at 8 p.m. Will all those interested and wishing to join the Society please come along to the Probationary Room in the Dental Department.

W. H.

LADIES' NIGHT

A DEBATE was held in the Nurses' Home on January 25th, to which members of the Nursing Staff and students from the Royal Free Hospital were invited. The subject of the debate was "That Humanity would do well to scrap the Machine," and the provocative nature of the motion drew a large attendance—in fact, over 180 members and visitors. Dr. RYLE, who was scheduled to take the chair, unfortunately was unable to do so, and Mr. LAYTON nobly stepped in and presided over the meeting in a most efficient manner.

Dr. ROGERSON proposed the motion, and gave us to understand that most of the ills from which humanity suffered could be traced to the industrial revolution. He cited the dreadful war potentialities of the modern machine, and dwelt on the misery found in the slums of the industrial areas. True happiness was to be achieved by returning to an indulgence in the fundamental pleasures of life, in the technique of which, he said, we had made no improvement. Outside these simple pleasures lay no real satisfaction for humanity.

Miss WEATHERHEAD opposed the motion, and refuted, once and for all, the notion that women cannot be logical. She pointed out that if certain evil aspects of the machine age existed to-day, that this was due rather to man's mismanagement of the machine than to any inherently bad quality in machines. If the evil was to be eradicated, then the good also would have to go, and she quoted innumerable instances of the good results which the industrial revolution had brought about. The desire to return to a previous and golden age was based on an old illusion, namely, that the "good old days" were always better than one's own. When Miss Weatherhead sat down we felt that some stronger arguments would have to be produced against the machine if this "monster" were to be deposed from his throne.

We had, however, reckoned without the caveman.

Mr. DUNSTAN called upon at the last minute to replace Mr. Reading, who had been suffering from laryngitis, seconded the motion. He showed his contempt for female logic by launching himself into a lyrical panegyric in favour of the caveman, and when at length he collapsed in his chair from his excesses of eloquence, we could scarcely restrain ourselves from rushing out in search of the nearest caves.

We were brought to our senses, however, by Miss GRANT, seconder of the opposition, who, scenting the danger of leaving our imaginations to dwell too long on our hairy ancestor, proceeded to undermine our faith in him by a long discourse on his lack of hygienic arrangements. So well did she do her job, and so graphic were her descriptions that I imagined when she sat down that I could detect a faint smell reminiscent of carbolic in the air.

The caveman ghost was not laid, however. The audience had evidently decided to put up with his irregular ablutionary habits. Many of the subsequent speakers showed very strong opinions about him, and devoted most of their time to pulling him to pieces and putting him together again—even the cavewoman did not come out unscathed.

Some of the speakers decided that they would get on to more profitable ground, as we were urgently threatened with a discussion on the cave-child.

It was very pleasant to hear a speech from Dr. TOUSSAINT, who was one of the earliest members of the Society. Mr. READING, upon being pressed by the Chairman, and despite his recent illness, spoke in favour of the motion. Mr. Voss called the bluff of the supporters of the motion and invited them to return themselves to a state of Nature. "What is the good of talking," he said. "Put your ideas into action."

Mr. CARDEW read an extract from Mr. Bertrand Russell' "alias Earl Russell," where it was claimed that the scrapping of machinery would re-

sult in the death of 90 per cent. of the world's population. MATRON questioned whether this would not be a very good thing, and heartily supported the motion.

The meeting had hardly recovered from its astonishment when the chief speakers were called upon to sum up, and 40 members were found to support the motion—a legion opposing it.

We ended a very successful evening with some excellent cakes, which, if my judgment is sound, were not machine-made.

H. B. O. C.

A Note on Phtheiriasis

OF the three insects which have played so fateful a part in the history of the endemic and epidemic communicable diseases, the mosquito, the flea and the louse, the last-mentioned appears to have attracted the attention of writers more than have the other two. For this preference there seem to me to be two reasons. The first is that lice, by their continual irritative action on the exterior of the human body, give rise to cutaneous lesions which are more lasting than those produced by mosquitoes and fleas, and so lousiness (phtheiriasis) has been described as a disease from the time of Aristotle to the present day, and figures as such in most of the text-books of general medicine and dermatology. Aristotle, who, however, confounds an itch-insect with lice, attributes the deaths of Aloman, the poet, and the Syrian, Pherecydes, to phtheiriasis, and to these names Plutarch adds those of Acastus, Callisthenes, Eucius and Sylla the Dictator. According, however, to the account given by Plutarch, Sylla died from an internal abscess; he was also lousy, and the origin of the insects was attributed to the abscess.

(In *Epidemics II, Sect. III*, of the Hippocratic Collection there is related the case of one Pherecydes who died on the ninth day of a fever with a rash like gnat-bites. This fever I believe to have been typhus. Was this Pherecydes the same as the one mentioned by Aristotle? If he was, the fact of his lousiness strengthens the arguments in favour of his fatal illness being typhus. But the account given by Diogenes of Laerte of the fatal illness of the Pherecydes referred to by Aristotle does not tally with the narration of the Hippocratic Collection.)

Whether lice can kill merely by their traumatic activities on the skin apart from their conveyance of the infection of typhus may seem to us in these days to be doubtful. But the military surgeon, Tobias Kober, declared that in the campaign in Hungary against the Turks at the end of the 16th century many soldiers were stricken even to death in consequence of their flesh being eaten to the bone (*excarnificantur*) by the unceasing bites of these foul insects. Some of the victims presented a horrible spectacle, the flesh of the back of the neck and of several fingers having been eaten away. The troops were also plagued with mosquitoes. Should we, however, be wrong in supposing that the bites of these insects and of the lice became septic and that gangrene ensued? Doubtless, also, some of those tormented in this way suffered and died from typhus (*morbus Hungaricus, languor Pannonicus*). Garrison is of the opinion that Kober was the first to associate typhus with lice, but I can find no statement to that effect in Kober's book. He definitely traces the origin of the disease to the drinking of foul water.

(The tortures inflicted by the insects evoked such terrible imprecations from the unfortunate soldiers as to shock the mind of the pious Kober; "cartloads of blasphemies" is his expressive term—*Ut taceam, quantis blasphemiarum plaustris divina Majestas a plurimis violetur.*)

The second reason for the more frequent references to the louse in literature is the very loathsomeness of the creature. The mosquito is not an ugly insect; he can be an unmitigated annoyance, even a torture, but a bite from him implies no disgrace. And the flea—well, perhaps his usual habitations are somewhat dubious, but then he is a merry, lively little fellow, even provocative of mirth. But the other! that "ugly, creepin', blastit wonner," as Burns calls him; his very name is hardly to be mentioned, suggestive as it is of all that is objectionable. Even Tobias Kober, seasoned as he was to all the horrors of the military camps of his day, is loath to pen the word "pediculi" (*vix ob nauseam nomine digni*). Upwards of a century later, in 1726, Swift represents Lemuel Gulliver as saying that "the most hateful sight of all" to be seen amongst a crowd of beggars in Brobdingnag" was the lice crawling over their clothes . . . the sight was so nauseous that it perfectly turned my stomach." A few years later still, in 1776, the celebrated "Queen of the Blues," Mrs. Montagu, complains in a letter of the bugs with which she was pestered in a house she had hired near Paris, but goes on to say: Most of the English ladies here tell me that they are apt to bring lice home from public places. I am happy I have not suffered such an indignity."

She could, apparently, put up with *cimex*, but as to *pediculus* . . . !

The insect had evidently become the symbol of all that was utterly despicable. Sir Wilmot Herringham in his "Life and Times of Dr. William Harvey (*Ann. Med. Hist.*, 1932) quotes a druggist who defied the College of Physicians, saying that its warrant was "not worth three skipps of a louse." The Mrs. Montagu who is referred to above is reported to have on one occasion provoked a certain wit (said by some to have been Dr. Johnson) to inditing the following lines :—

"Mrs. Montagu told me (and in her own house)
She did not care for me three skips of a louse ;
I forgive the dear creature for what she has said,
For ladies must talk of what runs in their head."

The phrase "three skips of a louse" seems to have been proverbial, yet it is certainly odd. The insect is usually associated with crawling rather than skipping. Still, he does manage somehow to get fairly rapidly from one person to another, as any soldier who served at the front in the Great War or any hospital nurse will tell you.

Other references may be brought forward to prove the ubiquity of the louse, even in the best society, in days gone by. When the apostate Emperor Julian went to the utter limits of carelessness in his personal habits, in protest against the luxurious and fastidious foppery of his Court, he was soon able to boast of what Gibbon, not to offend sensitive ears, terms a "populous" beard, though the Emperor himself calls a spade a spade. And when in Rabelais' allegory Gargantua combs the cannon balls out of his hair after the attack on the castle near the ford of Vede, his father, Grangousier, quite naturally thinks that they are lice. The astrologer, Sidrophel, in "Hudibras" complains that that hero has stolen from him the "talismanic louse," which kept him free from the insects. The intimate Pepys has several references in his Diary which show how common lousiness was in his time. Twice he had to complain that his wig-maker had sent him a new wig with nits in it. He tried to keep himself clean, but apparently found some difficulty in doing so, for once, having discovered about 20 lice on his body, he remarks that they were "more than I have had these 20 years." There is no one who has not heard those hackneyed lines :—

"O wad some power the giftie gie us
To see oursels as others see us !"

and most are aware that they were written by Burns ; but I find on inquiry that few there be who know that they occur in a set of verses addressed "To a Louse, on seeing one on a Lady's Bonnet at Church."

The body louse is not now so frequent in our country as he was not so very long ago, but he of the head is, I am afraid, still too prevalent in spite of the medical inspection and treatment of school children. In many countries, including those of Europe, lice are regarded as bringing luck. Osler, in one of his papers on typhoid fever, narrates the case of an Austrian who, fearful of losing his mascots, objected most strongly to the removal of the insects from his body when he was being washed after admission to hospital. Shipley, in his "Minor Horrors of War," quotes Drummond as his authority for a "common folk-lore belief implanted in the minds of our poorer people . . . that lice on the person is a sign of productivity and that, should they be removed, their hosts will become barren or sterile." These ignorant persons believe that the insects arise spontaneously (as, indeed, was held by the learned in ancient days), and that their presence is a sign of the health and vigour of their host. With the widespread prevalence of such views it was not surprising that we saw or heard much of lice during the war and that it was necessary to undertake campaigns against them under the names of typhus and trench fever.

E. W. G.

Mouth Ulceration

A Paper read before the Dental Society, Guy's Hospital, by K. E. J. Fletcher, Esq., on 29th January, 1934

MR. PRESIDENT and GENTLEMEN,—When it was suggested to me that I should read a paper before this Society I was at a loss to choose a suitable subject, but our President came to the rescue by intimating that a paper on mouth ulceration might prove to be both interesting and instructive.

Realising that it would be presumptuous for a student to offer information on this important subject based solely upon his own limited experience, his suggestion led me to search recent issues of professional journals for suitable material, but, to my amazement, it seems that, apart from discussions on pyorrhœa alveolaris and occasional references to the rarer types of malignant ulcers, the subject is one which has escaped the attention of contributors to these useful periodicals. I have therefore been obliged to rely almost entirely upon well-known text-books for information.

Ulceration is an inflammatory condition which has progressed to the extent of suppuration, and is defined in the text-books as being the gradual death and disintegration of the superficial part of the body leaving the deeper structures exposed. It is mainly due to inflammation in which pathogenic organisms are associated, and as the mouth is often inhabited by many types of virulent organisms and is liable to minor injuries it is rather surprising that cases of really severe ulceration are not more frequently encountered in dental practice. The reason for this is that the mucous membrane forms a very effective barrier against infection so long as it remains healthy and intact. As proof of the protection afforded by an unbroken oral mucous membrane one may remark on the infrequent occurrence of tuberculous ulcers seen in people suffering from phthisis, and the fact that osculation with a syphilitic does not invariably lead to a chancre of the lip, though the latter experiment is a risk I am not prepared to recommend should any of you be tempted to doubt the fact.

When a patient attends for advice complaining of a sore inside the mouth for which no definite cause can be assigned, his complaint should not be regarded lightly. Early recognition of the type of ulcer forms a highly important duty a dental surgeon owes to his patient. It may be a very trivial matter, but, on the other hand, it may be extremely serious. For instance, if it should happen to be a malignant ulcer early operative measures may be imperatively necessary to prevent agonising pain and even to save the patient's life. The dental surgeon who correctly diagnoses such a condition may justly feel some pride in having performed a great service to his patient.

Numerous varieties of ulcers are seen in the mouth, each having its own peculiar characteristics. They may occur anywhere on the gums, tongue, soft and hard palate, buccal mucous membrane or fauces, and may differ as widely in their significance as they do in actual appearance and symptoms. It is obviously desirable, therefore, that the dental practitioner should be well acquainted with the appearance and pathology of these different types of ulcers in order that he may be in a position to deal with them suitably.

When proceeding to diagnose an ulcer it is desirable that the patient should be questioned regarding its history, and the general appearance and condition of health of the patient should be observed. Although the appearance of the patient may suggest the possibility of malignant, tubercular or syphilitic conditions as being the primary cause of the ulceration, its importance should not be exaggerated into leading one to false conclusions.

A thorough clinical examination of the local condition should be made, in which special attention should be paid to the following points: The presence or absence of pain or tenderness, the number and position of the ulcers, their shape, depth and colour, the character of their edges and base, and the nature of any discharge. It should also be noticed if the ulcers bleed freely, and the question of lymphatic involvement must on no account be overlooked. In regard to the question of pain or tenderness, it must be remembered that its intensity will depend to a great extent upon the position of the ulcer. For instance, should the ulcer be at the back of the tongue it would be far more painful than if it were on the tip of the dorsum.

Ulcers of the mouth may be divided into three distinct categories—(*a*) simple, (*b*) infective and (*c*) malignant—and it will be convenient to consider them in this order.

SIMPLE ULCERS

There are two varieties of "simple" ulcers: the dental or traumatic, and the dyspeptic. The dental ulcer is the most common type that occurs in the mouth and usually appears at the side of the tongue, but as these ulcers are due to a local injury, they may, of course, occur in almost any part of the mouth. In appearance, the edges of the ulcer are raised and very often there is an indurated base which is dirty grey in colour. These ulcers may become deep, and then the surrounding zone of inflammation is absent. There has been some discussion lately in the hospital regarding the state of the lymph glands when a patient is suffering from a dental ulcer, but I believe it is now generally accepted that any enlargement of the glands is due to sepsis after secondary infection of the ulcer.

As its name implies, the cause of a dental ulcer is trauma. The injury may be due to chafing of the mucous membrane by an ill-fitting denture or orthodontic appliance, or a sharp edge to a cavity, a rough edge of a filling, or even the presence of calculus may injure the adjacent mucous membrane, and occasionally small children injure their gums with a foreign body, such as a stick or pencil, and so produce an ulcer of this type. Another frequent cause of dental ulcer is injury resulting from misdirected energy when using a toothbrush. Traumatic ulcers due to this cause may *occasionally* be observed in hospital patients, and their comparative rarity would seem to be due to unacquaintance with the toothbrush rather than to any special expertness in its use. I have suffered from an ulcer of this type myself and can vouch for the discomfort they cause, though

an application of chromic acid 10 per cent., picked up in conveying forceps and placed on the ulcer, which is the usual treatment for traumatic ulcers, has cleared them up rapidly.

Long-standing trauma, such as a sharp tooth, may cause an ulcer which is more or less persistent and which closely resembles epithelioma. In such cases it may be advisable to excise a portion of the ulcer for histological examination to determine its true nature. I have referred to the fact that pressure from a denture is a very frequent cause of dental ulcers, but it should not be assumed that an ulcer appearing beneath a denture is necessarily traumatic. Should there be any doubt on this point the denture should not be worn, and to ensure that the patient follows this unwelcome advice and does not in a weak moment re-insert the denture for æsthetic reasons, it may be necessary to remove the risk by retaining the denture in your own possession temporarily. As dental ulcers readily respond to simple treatment when the cause has been removed, continued persistence of an ulcer may indicate the possibility of malignancy. If it be a simple dental ulcer the removal of the source of irritation will usually result in its early disappearance without the application of drugs, though it is advisable to take the usual antiseptic precautions, and in private practice patients will naturally expect you to take an intelligent interest in it and to apply a medicament of some sort.

Dental ulcers are perfectly simple and non-infected to begin with, but may develop into a grave condition owing to the entrance of bacteria. Should they not respond to treatment malignancy should be suspected, and if verified by microscopic examination complete excision will be necessary. The excision should in these cases be really drastic and the patient should be kept under careful observation subsequently.

The second type of simple ulcer, the dyspeptic ulcers, do not usually occur alone, though they may do so. The most usual sites for their appearance are at the tip of the tongue, at the side of the frænum linguæ, and in the buccal sulcus. These ulcers are extremely painful and appear as small ulcerated patches having a yellow base, and they are surrounded by a definite zone of inflammation. There is no glandular enlargement, and a peculiar point is that these ulcers develop very rapidly and disappear as quickly as they came, and a fresh attack may be taking place while the first is subsiding. As these ulcers are due to intestinal derangement treatment must necessarily be directed to correcting the internal condition, but it is found that potassium chlorate taken internally and also used in the form of a mouth wash will greatly facilitate in clearing up the local condition.

INFECTIVE ULCERS

Under this heading we have the tubercular and syphilitic ulcers.

The former is a rare condition and seldom appears in the mouth as a primary lesion, but is almost invariably a secondary infection due to advanced phthisis. These ulcers are a direct result of contamination of a wound by the sputum, which, in phthisical patients, is heavily infected with tubercle bacilli.

Tubercular ulcers usually appear under the surface of the tip of the tongue, although they very occasionally appear on the gum or buccal mucous membrane. They are often multiple, but usually appear singly, and in most cases are extremely painful, though on occasion the pain may be entirely absent. These ulcers, which mainly occur in young adults, and which arise from small nodules which extend, break down and ulcerate, have a pale, unhealthy-looking surface with raised soft edges and irregular margins. The lymphatic glands are sometimes enlarged, though this may be the result of secondary infection or consequent on the general tuberculous condition of the patient, and is not primarily due to the ulcer itself. The presence of minute T.B. nodules in the margin and under the granulations is stated to be a characteristic of tuberculous ulcers.

The treatment of tubercular ulceration is difficult. Local treatment appears to be practically valueless, the ulcers not responding to the local application of drugs. The only method likely to be successful in these cases is to treat the patient's general tuberculous condition, though attempts should be made to alleviate the pain. It is, therefore, a case of doing what one can in the circumstances by the adoption of palliative measures. The severe pain may be relieved by painting the ulcers before meals with a 2 per cent. solution of cocaine, but in cases of primary infection the ulcer may be treated with pure carbolic acid or should be completely excised. Consideration of tubercular ulcers would not be complete without a passing reference to lupus, which is a rare type of tuberculous ulcer, and which may easily be recognised as the condition in the mouth is due to extension of the external condition.

Next to cancer, syphilis is the most serious disease with which the dental surgeon may have to deal. Evidence of this disease in any of its stages may appear in the mouth, and the ulceration which takes place will have the characteristics of

the stage to which it belongs. Primary syphilitic chancres, which are invariably due to direct infection and occur at the site of inoculation, are rarely seen within the mouth, but are occasionally met with on the mucous membrane of the upper lip. In the majority of cases their presence is due to the reprehensible habit of kissing a person who is suffering from the disease, the external evidence of this indiscretion makes its appearance about three weeks after the interesting but risky episode. It is as well to remember that one attack does not necessarily confer immunity upon the individual, and that the appearance of subsequent chancres is not unknown. Chancres have also been known to occur through infection by dental instruments which have previously been used in the treatment of a syphilitic patient and have not been thoroughly sterilised. Such an accident might easily, and justly, lead to serious consequences for the dental surgeon who brought about such an alarming condition as a result of his neglect in the important matter of sterilisation of his instruments.

A primary chancre is sometimes mistaken for herpes, though the latter usually occurs at the angle of the mouth, while the former is generally situated at about two-thirds of the way from the centre of the lip. These features, combined with the fact that primary chancres always appear singly, are painless, and the edges are raised and firm to the touch, should serve to distinguish between these two local conditions. A further important point in their diagnosis is the hard nodular condition of the lymph glands draining the area in which the syphilitic lesion appears.

During the secondary stage of syphilis, when the spirochæta pallida has dessimated throughout the system, some extraordinary lesions may appear. On the oral mucous membrane one may observe a rash, which, on breaking down, results in a shallow type of ulcer having a grey slough and said to resemble a snail track in appearance. These ulcers are most common on the fauces, but also appear on the inside of the cheek and on the dorsum of the tongue. A characteristic of these ulcers is that they are usually symmetrical.

During the tertiary stage of the disease, gummata are frequently seen in the mouth, and are then generally situated on the hard palate. They may be single or multiple, and may appear as a result of a slight injury to the mucous membrane. The gumma commences as a small tumour, which breaks down and forms a deep ulceration, and, should this occur on the hard palate, a perforation into the floor of the nose may easily result, especially as the lesion is quite painless and may therefore go unheeded and untreated. It is astounding how far ulceration can proceed in the mouth without the patient being aware of it.

The ulcer presents a deep excavated area, having sharp, undermined edges and a base said to resemble wash-leather in appearance. In both the secondary and tertiary stages the lymphatic glands draining the part are not affected unless they become secondarily infected, which is usually the case, but even then the glands are not so hard to the touch as in the case of primary infection.

The reason that gummata break down is because the blood supply of the tumour is cut off from the centre owing to the narrowing of the arterioles at the periphery. A gumma may become malignant, and is then fatal. I have recently heard of a case where a patient had contracted syphilis at a comparatively early age and had foolishly neglected to seek proper advice and treatment. Following the extraction of a third molar tooth later in life this patient developed a large gumma involving the socket of the tooth—due, no doubt, to the bruising of the gum. This would seem to be a case where the term " wisdom tooth " was a definite misnomer for a third molar. The patient eventually suffered from G.P.I.

In the treatment of syphilitic ulcers, the patient should be placed under medical care and treated generally with the usual drugs—mercury and arsenic for the primary and secondary stages and potassium iodide for the tertiary stage. The dental surgeon's part consists in keeping the patient's mouth in as healthy a condition as possible; scrupulous care being taken to avoid the possibilities of infection.

MALIGNANT ULCERS

Malignant disease is, unfortunately, very common, and this malady may occur in the mouth as a growth or tumour which has a great tendency to ulcerate. Some authorities declare that cancer is a terminal phase of inflammation and is a form of degeneration.

An epitheliomatous ulcer is a condition supervening upon a simple or infective ulcer usually attributable to some chronic irritation or to gummatous ulceration, and may commence as a nodule which ulcerates soon after its appearance. In the case of leukoplakia the malignancy commences in the fissures which are present at one stage of this disease.

Epitheliomatous ulcers occur most frequently on the lower lip or side of the tongue, the ulcer itself presenting a hard and indurated character, having everted edges on a fungating base and, as a rule, an offensive discharge. By palpating it will be noticed that the hard ulcers are firmly fixed to the underlying structures. In the early

stages malignant disease in the mouth is usually painless, but later on considerable pain may be experienced due to implication of the sensory nerves or by pressure on the nerve caused by proliferation of underlying cells. A characteristic of malignancy is the profuse salivation which takes place. The neighbouring lymph glands also become enlarged, but the disease should be diagnosed before this stage has been reached.

An interesting fact came to my notice which seems to prove beyond doubt that irritation is at least a predisposing cause, and may even be a direct cause, of cancer. Statistics regarding the prevalence of cancer of the buccal mucous membrane among different communities show that the death rate ranges from 2 per cent. in Chile to 50 per cent. in Ceylon. The latter high figure is said to be due to the chewing of betel-nut, a habit which is common among the Cingalese and which has a highly irritant effect on the oral mucous membrane.

The reason why a simple ulcer should become malignant is not definitely known, but it has been suggested that it is due to a microbic agent the nature of which has not yet been determined. In the latter connection it is recorded by Mr. Steadman that a large percentage of cancerous patients suffer from oral sepsis to a marked degree. It may be interesting to note that when carcinoma occurs in the anterior two-thirds of the tongue it is usually accompanied by syphilis, and should it occur in the posterior one-third syphilitic infection is usually absent.

The diagnosis of epithelioma in the early stage is not a simple matter. I would again emphasise the need for regarding ulceration in persons above the age of 40 years as a serious matter, unless there is some obvious cause to expect ulceration, and even then should not be treated lightly, but must be examined with extreme care. Microscopical examination should be resorted to without hesitation in all doubtful cases, as the microscopic appearance is the only sure guide on which a definite decision can be based.

The treatment of carcinomatous ulcer must be drastic to be of any good. The ulcer itself must be excised, preferably by surgical diathermy to prevent the dissemination of cancerous cells via the blood stream, and the neighbouring glands draining the part should, if possible, be removed, especially if the ulcer has been present for any time. Radium or X-rays are sometimes used in inoperable cases, but the mouth must be freed from any source of irritation before such treatment is commenced.

The sarcomatous ulcer is another type of malignant ulcer which may rarely occur in the mouth, the common position being the gums. It usually appears in young adults, is practically painless, and the lymphatic glands do not become enlarged unless the ulcer becomes secondarily infected.

So much, then, for the three main types of ulcers, but I have now to mention a disease which is more commonly met with in dental practice, and which may be seen as a localised or as a general condition in the mouth. I refer to ulcerative stomatitis, or Vincent's angina.

This disease commences as a small localised ulcerative patch on the gum margin, most frequently in the lower molar region, having a dirty white appearance and surrounded by a zone of inflammation. The early symptoms are a marked rise in temperature, swelling and tenderness of the neighbouring lymph glands and fetor of the breath. If neglected, the condition may spread round the whole dental arch, the alveolar process being laid bare and the teeth loosened through ulceration of the periodontal membrane. Not infrequently the ulceration will spread to the tonsils and pharynx, and in extreme cases necrosis of the bone and gangrene of the adjacent soft parts may result

This disease, which was prevalent during the late war and was known as trench mouth or trench gums, is highly infectious and is characterised by tenderness of the gums. Diagnosis of the condition is not always a simple matter, and it is advisable to confirm one's suspicions by taking a smear from the surface of the ulcer and examining it microscopically for the spirochæta Vincenti and the bacillus fusiformis which are invariably present in a true case of Vincent's angina. The local condition should be treated by the application of drugs such as arsenic and a mouth wash of potassium chlorate, the latter drug being also administered internally. In a recent clinic I understood Mr. Kelsey Fry to mention that pure carbolic acid applied to the gum margin cleared up the condition rapidly.

It is stated that the disease is specially prone to occur in debilitated patients whose oral cleanliness has been neglected, and in all suspected cases the patient should be isolated, and all feeding utensils used by him should be carefully sterilised to prevent spread of infection. Treatment must be directed to cleaning up the mouth as far as practicable without injury to the infected tissues, and to improving the general condition of health in addition to the application of suitable drugs to the ulcerated surfaces.

Some authorities declare that all surgical measures should be suspended until the ulcerative condition has been cleared up and thus avoid the

possibility of spread of infection, and they further affirm that the extraction of teeth may easily result in septicæmia. This statement seems to be at variance with the recommendations of other authorities, and I notice that no less an authority than Mr. J. G. Turner states that the gum margins must be carefully cleansed at least twice daily and that all loose teeth *must* be removed. He further recommends the application of iodi mitis round the necks of the teeth daily. As this recommendation appears in Sir Norman Bennett's "Principles and Practice of Dental Surgery," one may assume that the author fully agrees with this line of treatment. This diversity of opinion as to the wisdom or otherwise in proceeding with surgical treatment during the course of the disease seems to me a little confusing, and I shall be grateful if our President, or even some less illustrious authority, will give a decisive pronouncement on this apparently debatable point. For instance, if the angina be present in the vicinity of an acutely abscessed tooth, what would he do? Or, more important still, what would the examiners for the L.D.S. Diploma expect an examinee to answer if he were asked this conundrum?

We will now turn our attention to the less common types of ulceration in the mouth, such as leukoplakia. Leukoplakia is not, as some people imagine, a disease of the tongue only, but it is a condition which may occur anywhere in the mouth. However, chronic superficial glossitis is the form of the disease most commonly met with.

Leukoplakia has numerous synonyms which are indicative of the different stages of the disease and the differing appearances presented during its progress. The history of the disease is generally one of long-continued irritation such as smoking, or drinking to excess, or may be by the use of spices, etc., and not infrequently the patient may be found to be suffering from syphilis, though the ordinary cures for syphilis do not make any impression on this condition. The most important point lies in the great tendency it has to become cancerous, and leukoplakia may thus be regarded as lying between syphilis and cancer, the former being usually the underlying cause and the latter the final stage. It is as well to remember, however, that syphilis is not always the cause, and that leukoplakia may occur in cases where there is no evidence of syphilis.

Leukoplakia commences by slight patches of redness over the mucous membrane. This then gradually becomes bluish, and later the surface becomes white and shining. The disease may disappear at this stage, but, as a rule, the surface becomes hard, white and raised, and at the same time the ulceration seems to be separated by furrows. Its appearance at this stage is that from which the name leukoplakia is derived, the Greek word meaning "white patch or disc." These areas may become rubbed and the surface becomes a bright red colour.

In its early stages leukoplakia is painful, the burning pain occurring should the patient partake of spicey foods, or even should he smoke. Until recent times the disease was thought to be confined to the male sex, but it has been observed among Irish peasant women, who are sometimes habitual pipe smokers, and as the habit of pipe-smoking has spread to other females of other nationalities I presume we may expect to see examples of this disease even among Englishwomen of the future. I do not wish to imply that smoking is the main cause, but it is certain that the irritating effects of hot tobacco smoke is a predisposing cause, and that syphilitics who are heavy smokers are extremely prone to the disease. Irritating substances such as spicey foods, mustard, pepper, strong alcohol and smoking may help to induce the condition, but whatever may be the exciting cause the disease is extremely resistant to treatment and shows a marked tendency to recur. Even if the correct treatment be applied healing is very slow, and it may take a year or more to restore the mucous membrane to a normal condition.

The recognised method of treatment is to remove all sources of irritation. Septic teeth should be removed and the patient's habits and diet must be attended to; 10 per centl chromic acid may be applied to the ulceration itself, and an alkaline mouthwash, preferably sodii bicarb., has a slightly soothing effect. Irritants must on no account be used. Smoking, condiments and alcoholic liquids must be strictly prohibited, and, if syphilis be present, the usual anti-syphilitic remedies must, of course, be applied.

I would just like to mention briefly some of the rarer types of ulcers, which for convenience I shall refer to in alphabetical order rather than in the order of their importance or frequency. They are:—

Cancrum Oris,
Diphtheria,
Exanthematous fevers,
Herpes,
Leprosy,
Rodent ulcer,
Scurvy and
Sprue,

and it would appear that, as these ulcers are local manifestations of specific diseases, they should properly be classified as infective ulcers.

1. Cancrum Oris, or Gangrenous Stomatitis, was mentioned by Mr. Holmes in his paper read

earlier in the session, and you will remember the picture of that condition he showed on the screen. It is therefore unnecessary for me to make more than passing reference to this disease, which commences as a small ulcer covered with white-grey slough on the buccal surface of the cheek. It usually occurs in young children between the ages of 1—5 years who have recently suffered from one of the infectious fevers, and is considered by some people to be merely a late stage of Vincent's angina. The ulcer spreads and perforates the cheek, and almost invariably has a fatal termination.

2. A Diphtheric Ulcer may occur anywhere in the mouth, although the disease is essentially one of the pharynx. In appearance the ulcer is yellowish-white and is surrounded by a zone of hyperæmia. These ulcers are not painful and are secondary to the disease.

3. During the course of Exanthematous Fevers ulceration may occur in the mouth consequent upon the general condition of the patient. The tendency to mouth-breathing, the diminished flow of saliva, and the fact that the patient is fed on soft foods all tend towards a local pathological condition. Thus, measles has definite symptoms in the mouth, although it is more in the nature of a rash than ulceration. About three days after the commencement of the disease " Kopliks " spots which are raised, white-topped papules surrounded by a zone of inflammation, appear on the buccal mucous membrane, usually opposite the six-year-old molars. These spots usually disappear within 24 hours. In scarlet fever there is a strawberry-coloured rash, resembling that on the body. This rash appears in the mouth and usually commences on the soft palate, but it may extend to the buccal mucous membrane. Diphtheria often occurs at the same time, and the condition may be mistaken for Vincent's angina, which it closely resembles. In the more severe cases, ulceration of the rash may take place and progress to the extent of perforation of the palate, the lymph glands become swollen, the submaxillary glands being the first to be involved followed by the cervical glands, and the gums generally bleed as a result of the ulcerative condition. In the case of smallpox, pustules may appear anywhere in the mouth except on the tongue, which is usually unharmed.

4. In the case of Herpes, which I mentioned earlier, small vesicles occur usually on the face. Should the mouth itself be affected, the gums and tip of the tongue are the two most common sites. The vesicles break down and the condition becomes one of a small ulcer with ragged edges and a surrounding zone of inflammation. It is practically impossible to distinguish these ulcers from dyspeptic ulcers, but for the fact that in the herpatic condition the nearest lymphatic glands are swollen and tender.

5. Leprosy is a chronic contagious disease due to infection with the leprabaccillus. When occurring in the mouth it does so in the late stage, when an ulcerative condition appears on the throat and buccal mucous membrane as depressed white patches surrounded by a bluish area of inflammation. The surface of the ulcer is nodular and has a foul discharge, little pain being felt.

6. Rodent Ulcer is so rare in the mouth that it is hardly worth mentioning. The condition starts as a small red nodule, which grows slowly and ulcerates. The condition is curious in the fact that it has a tendency to heal and then ulcerate afresh.

7. Scurvy is entirely dietetic in origin. The gum begins to bleed early in the disease and becomes dark purple in colour, swollen and spongy, and may even be deformed by fungous excrescences, and the breath is extremely foul. This disease is very rare nowadays, and those of us who were privileged to see a case in the hospital about a year ago must regard themselves fortunate in having done so.

8. Sprue is a chronic catarrhal inflammation of the mucous membrane. The cause is yet unknown, but it is entirely a tropical disease, although atmospheric temperature has no influence on its origin. It is usually the dorsum of the tongue that is affected, this organ becoming swollen, red and smooth, and the surface is broken by cracks and small superficial ulcers which have a yellow slough. Small aphthous patches with ulceration may occur under the tongue and inside the cheek. The condition is so painful that it is impossible to take food by the mouth, and rectal feeding may be necessary. Calcium lactate 10-15 grains three times a day is an effective treatment, taking also one-tenth grain of parathyroid morning and night, but, if possible, the patient must be moved to a temperate climate.

In conclusion, I feel I must explain why I have presumed to read a paper at all, and why this special subject should have been selected. The paper has been read because our hon. secretary insisted that someone, however incompetent, must fill the gap in his otherwise interesting list of contributors. I presume our President suggested the subject of it with a view to escaping at least one of his interesting lectures. The hon. secretary's object has been achieved, but I fear our President will now have to give an additional lecture, or write a book, to rectify any mistakes I may have made in dealing with such a wide subject as " Mouth Ulceration."

Sport

Rugby

Guy's v. Gloucester

ON Saturday, January 27th, the Hospital visited Gloucester and in a heavy scoring game were defeated by 4 goals (1 dropped) and 3 tries (28 points) to 2 goals (1 penalty) and 1 try (11 points).

With the return of P. C. Hordern, Gloucester fielded their strongest side, but Guy's still lacked the assistance of M. J. Lindsey, their full-back.

Although the weather was cold there was a large attendance, and from the kick-off the home side made a determined effort to score. From the first scrum Gloucester heeled, and Brooks kicked across to the right. Tanner was well up, but he failed to gather; however, the ball was kicked over the line and Guy's touched down in the nick of time.

From the drop out Gloucester attacked strongly and, after the Hospital line had had two or three narrow escapes, Giesen intercepted and found touch beyond half-way. Good kicking by Guy's enabled them to retain their position, but eventually Brooks cut through beautifully and a nice pass to Meadows enabled the latter to run right up to the full-back. There were several Gloucester players up to take the final pass, but Guy's intercepted and a splendid opening was lost.

Another clever run by Meadows gave Brooks a chance, but he stumbled a yard from the line. However, the persistency of the home side was rewarded a little later when Tanner cross-kicked over the line for Wadley to touch down for a try, which Boughton converted with an excellent kick.

Following a period of open play, Williams made a splendid dribble and took the ball over the line for M. McCanlis to score in an easy position for Boughton to convert. At this stage Gloucester were irresistible, and kept the Hospital strictly on the defensive. Their backs combined beautifully, and another smart bout of passing between their threes left the ball with McCanlis who, beating the defence with a side-step, scored a neat try, but Boughton failed with the kick.

Guy's worked hard on the kick-off and gained a footing in the home half, and Boughton saved on the line. A scrum followed and Guy's heeled. The ball was transferred rapidly to Alexander, who broke through splendidly to score a capital try and Hogbin landed a good goal.

Subsequent play was more even, the Hospital forwards doing well in the loose and the backs indulging in some snappy movements, which Gloucester did well to check. A penalty against the "Citizens" gave Guy's an opportunity to augment their score, and Hogbin kicked another splendid goal.

The tricky wind was responsible for several mistakes in handling on both sides, but Guy's were the more dangerous whenever they had the ball. Good all-round work by the Hospital enabled them to reach the 25, but Fifield started his backs moving, and Franklin, after a strong run, gave Tanner an opening, but he was finely tackled by Johnson.

Early in the second half Guy's showed up strongly, and the forwards heeled from the first three scrums, but the backs failed to find an opening.

A splendid touch-finder by Boughton put Gloucester well down and, following some loose play, Williams picked up and secured a fine opening for Comley, but with an open line he lost the ball ten yards out.

With the aid of a penalty Guy's drove their opponents back, and for a time gave the home defence a severe testing. The whole team were on their toes, and a snappy round of passing resulted in Hogbin scoring an unconverted try, which brought them within two points of their opponents.

It was now anybody's game, but a misfortune befell Gloucester, who lost the services of Tanner, with a leg injury. Hordern came out of the pack to the wing, and very soon beat several opponents in a dash for the line, but Johnson brought him down from behind with a fine tackle. However, Gloucester scored again, when Williams passed to Franklin and the latter slipped over for a try, but Boughton failed to add the goal points.

Encouraged by this success, the home team played inspired football, and for the next ten minutes they over-ran the Hospital. Starting from his own half, Meadows ran right through and created a beautiful opening for Hordern to score near the posts, Boughton converting. Their backs carried out another fine movement, and eventually the ball came to Meadows, who dropped a neat goal. Almost immediately they scored again, when McCanlis made a run of 50 yards and sent in James for another unconverted try.

Guy's made several attemps to reduce the deficit, but could not get by a strong defence. Hogbin led a sharp attack, but Boughton saved and the same player cleared again when pressed near the line. Play was keenly contested to the finish, but there was no further scoring.

Team.—E. C. Sharpe; C. G. Wright, P. C. Alexander, J. E. Giesen (Capt.), A. G. Johnson; J. van A. Steytler, D. I. Chapman; M. R. Kark, H. H. Crabb, C. S. Darke, I. G. Robin, R. J. Drummond, T. A. Hale-Monro, R. A. P. Hogbin, A. R. Clarke.

1st Round Inter-Hospital Cup
Guy's v. St. George's

AT Richmond, on Thursday, February 1st, Guy's were successful in the first round of the Hospitals' Cup by 5 tries (15 points) to a try (3 points).

A high and bitterly cold wind spoiled what might have been an attractive game, as both sides had back divisions capable of handling a dry ball cleverly in the open. The wind played queer tricks with the ball, which made handling extremely difficult. However, Guy's adapted themselves to the conditions better than their opponents and, despite chilled fingers, the back division combined well and were good individually.

St. George's had a fine pack, which held its own, especially in the loose, and, ably led by D. K. Swayne, the old Oxford Blue, they carried out several promising raids which might have resulted in a score. They set a fast pace in the early stages and had the better of the play, but Guy's superiority, especially behind the scrum, was clearly established as the game proceeded.

C. G. Wright, who partnered P. C. Alexander on the right wing, was in excellent form, and succeeded in registering the first three tries for Guy's. Two of these he obtained in the first half, the first being a fine individual effort when he took a pass from the loose and ran from half-way down the touch-line, easily beating all attempts to cut him off. P. C. Alexander paved the way for the second, and again he out-paced all opposition before the interval.

Wright accomplished the hat-trick by a remarkably swift and lively follow-up, when J. E. Giesen, with the road blocked on the left wing, stopped in his stride and deliberately punted ahead and across field. The St. George's defence was rather slow in getting back, and Wright was distinctly fast in going after the ball.

A combined dash by the Guy's pack led to the next score and, following a scrimmage on the line, T. A. Hale-Monro forced his way over for another unconverted try.

After this reverse St. George's rallied and E. H. Allen, their left centre, who had been prominent throughout with some superb kicks to touch, combined beautifully with P. F. Cooper and T. E. Jones-Davies. The latter made a fine run, which was carried on by the pack, and eventually Cooper, who backed up splendidly, scored a well deserved try.

Near the end Guy's re-asserted themselves, and P. C. Alexander saw an opening and he was through the defence before they had time to tackle him. Running in great style, he scored the final try, and " no-side " was sounded soon after.

In the next round Guy's meet London Hospital at Richmond on Monday next, February 19th.

Team.—M. J. Lindsey; C. G. Wright, P. C. Alexander, J. E. Giesen, A. G. Johnson; J. van A. Steytler, D. I. Chapman; M. R. Kark, H. H. Crabb, C. S. Darke, I. G. Robin, R. J. Drummond, T. A. Hale-Monro, R. A. P. Hogbin, A. R. Clarke.

Association
Guy's v. H.A.C.

THIS game was played at the Armoury House in ideal weather and resulted in a win for the Hospital by 4 goals to 1.

For the first time for a considerable period the Hospital fielded a full side, and the result was particularly noticeable.

Straight from the kick-off the forwards started to attack, and missed the goal by very narrow margins on several occasions. The whole of the first half was composed of attacks by the Hospital relieved by spasmodic rushes by the H.A.C. forwards. The brilliance of Clarke in the H.A.C. goal prevented any scoring, and half-time came with no score.

Immediately after the interval the Hospital ran into the attack, and from a rebound Osborne shot into the top corner of the net. Soon afterwards Jones-Lewis completed a fine solo run by a beautiful shot from a very difficult angle, to put the Hospital two up.

Play was at this point very fast, but the marked superiority of our combination told, and a first-time shot by Groom from Jones-Lewis' centre put us further ahead.

The H.A.C. reduced the arrears a few minutes later, but this was immediately offset by Rees putting Jones-Lewis away to score the Hospital's fourth goal. This completed the scoring, and a most enjoyable game ended with the score of 4—1 in the Hospital's favour, who thus avenged a 2—0 defeat at the beginning of the season.

Result.—Won, 4—1.

Team.—J. T. R. Stoneham; J. M. Johnson, D. A. Priestley; R. L. V. Henderson, S. E. Osborne, J. Thomson; R. W. Harvey, G. James, W. A. Groom, G. G. G. Rees, H. Jones-Lewis.

Fencing
Inter-Hospitals Competition
PRELIMINARY POOLS

IN both foil and epée the Guy's representatives headed their respective pools, J. F. Morris and D. M. Paterson in foil and G. Wilson-Lawrence in epée. In sabre, Morris reached the final pool, while J. R. Miles tied with two others

for third place, three being promoted from each pool into the final pool. In the ensuing barrage he was unfortunate, as, although he had defeated both earlier in the evening, he failed to repeat the performance, and was placed fourth.

FINAL POOL

This took place at the London Fencing Club on Saturday, January 27th. There was a pool of six in each weapon.

In foil, Morris took second place and Paterson the fourth. Paterson did not seem to be up to his usual standard in this weapon. His attacks lacked their customary speed. In epée, however, he returned to his previous form and again headed his pool, thus winning the individual epée medal. Wilson-Lawrence, who fought well throughout the competition, tied for third place and won it on the ensuing barrage. In sabre, Morris gained fourth place after fighting a barrage for it. He would have taken a higher place had he made more use of "point." The majority of hits against him were "stop cuts" at arm on his attack, indicating that this line was insufficiently covered.

The competition was won by Guy's Hospital, and the final results were :—

Guy's Hospital	54	points
University College Hospital	45	,,
St. Thomas's Hospital	34	,,
St. Mary's Hospital	19	,,
St. Bartholomew's Hospital	12	,,
London Hospital	7	,,
Middlesex Hospital	6	,,

Hospital Information, etc.

Testimonial to Mrs. Archer

The following is the first list of subscribers to the above Fund. The Fund is still open for further subscriptions :—

Annett, H. R. P.
Aubrey, H. P.
Bull, F. Bocquet
Bulleid, W. A.
Cave, A. E.
Chignell, T. H.
Christian, H. B.
Clarke, A. S.
Clothier, E. J.
Coetzer, H. L. P.
Copley, F. I. S.
Cowell, R. G.
Cowlishaw, L.
Crook, F. W.
Davies, A. S.
Davis, S.
Day, F. W.
Denney, W. V. A.
Dimock, W. G. C.
Doherty, J. W.
Doubleday, H.
Dowsett, E. B.
Eglinton, D. C.
Ellis, G. G.
Evans, L.
Farmer, E. F.
Farrington, R. G.
Fensom, J. H. G.
Freeman, E. J.
Fry, J. C.
Fry, W. Kelsey
Furse, F. L.
Gillham, N. E.
Gillies, A. R.
Glover, F. S.
Goodman, D. W.
Gorton, A.
Hagger, C. I.
Hall, H. D.
Hemmings, L. G.
Henry, C. J.
Herbert, W. E.
Hide, W. J.
Hine, J. B.
Hodgson, W. A.
Holborn, F. M.
Holman, A. W.
Hooper, R. V.
Hopson, M. F.
Huckett, E. S.
Hunt, G.
Ide, H. L.
James, C. H.
Jenet, E. C.
Jones, H. G.
Kark, C. V.
Kenshole, H. H.
Kingham, R. V.
Lakeman, W. S.
Lawson, S.
Lloyd Williams, G. V.
Lyth, O.
McBride, J.
Malleson, H. C.
Messenger, H. L.
Moore, A. S.
Musgrove, A. H.
Myatt, J. H. D.
Nevard, C. G. O.
Partridge, W. L.
Paul, F. W.
Payne, J. Lewin
Pilbeam, L. S.
Pollard, C. A.
Pollitt, G. P.
Pomeroy, C. T.
Pringle, K. E.
Pritchard, G. B.
Pryor, A.
Read, J. C.
Reynolds, A. W.
Rix, R. H.
Robertson-Ritchie, D. H.
T. M.
Rowbotham, J. C.
Royston, G. E.
Rubie, G. J.
Salton, N. L.
Sander, E. H. L.
Saul, E. R.
Spouse, H. A.
Steel, L. A.
Stevens, F.
Stuart, G. M.
Stuart, J. A. W.
Taylor, A. G.
Thompson, J. H.
Tinkler, S. N.
Tofts, F. H. B.
Tomes, E. A.
Tomlyn, F. C.
Tregarthen, G. G. T.
Tustian, T. B.
Van Noorden, E. A. J.
Wallis, F. R.
Wandless, D. J.
Warner, F. S.
Weighell, H. J.
Whitten, M. G.
Williams, P. H.
Williams, S.
Winn, T. L.
Wright, J. A. S.

Appointment

Geoffrey Marshall, M.D., F.R.C.P., appointed Consulting Physician to King Edward VII Sanatorium, Midhurst.

Birth

SPURRELL.—On February 5th, 1934, to Dorothy (née Griffith), the wife of W. R. Spurrell—a son.

Marriage

LEWIS—HARRIS.—On January 25th, 1934, at Hereford, Windsor H. Lewis, B.Ch. (Cantab.), to Molly, only daughter of Mr. and Mrs. E. C. Harris, Craigweil House, Hereford.

Deaths

MARTIN.—On February 4th, 1934, after a short illness, John Birch Martin, M.R.C.S., L.R.C.P., of Cedar Road, Chelmsford.

MEEK.—On January 28th, 1934, John William Meek, of Macclesfield. Aged 80. Educated at Macclesfield Grammar School, Owen's College, Manchester, and Guy's Hospital; L.S.A. 1877, L.R.C.P. Lond., M.R.C.S. Eng. 1877, M.B. Lond. 1880 (University Scholarship and Gold Medal in Forensic Medicine, First Class Honours in Med. and Honours in Obst. Med.), M.D. Lond. 1881.

EDS. { C. G. B. / G. L. B. T.

GUY'S HOSPITAL GAZETTE

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PASSIM

IT is probable that, with the gradual falling off in the number of Out-patients, the Hospital will in future to a large extent be dependent for its clinical material on cases of interest, cases of doubt and cases requiring specialised treatment sent up by private doctors.

It is therefore essential, firstly, that contact between the practitioner who sends the case and the house officer responsible for admitting and disposing of it should be made smoothly and quickly, and secondly, that the consultation by 'phone should be frank and straightforward.

The first is difficult to obtain in a hospital of this size, where the "take-in" house officer is always on the move. Nevertheless the installation of the new 'phones and buzzer have certainly made it easier to tether his wanderings, and if the promised extension of the telephone from the Front Lodge to the College ever materialises a further saving of the practitioner's time and pocket, as well as the house officer's energy, will be effected.

The second essential, frankness, fortunately almost always obtains, as indeed it should between two doctors arranging the future welfare of a patient. Nevertheless there are occasional exceptions, and it can do no harm to mention them. It is obviously unfair to the patient and damaging to the doctor if the house officer promises a bed and then later, after examination, refuses admission; on the other hand, with a limited number of beds he cannot always promise to take in a case until he has seen it. He should then, and almost invariably does, explain that to the doctor, and promise to see that the case is admitted elsewhere if not suitable. It is important that this is made clear to the patient before starting for hospital. What is inexcusable is for the practitioner to send up a case without warning or deliberately to mislead a house officer by offering an interesting or baffling case when he is merely trying to rid himself of a chronic nuisance or trying responsibility. Recently a case which was described as a focal nephritis from boils arrived at the Hospital as an obvious erysipelas, which could not be accommodated and was too ill to be moved further. The doctor later admitted that he had considered erysipelas as a diagnosis, but as he did not mention this when 'phoning the obvious conclusion to be drawn is that he was trying to "swing" the case. This habit is, fortunately, not common, but is one which is not only detrimental to the patient, but unworthy of a professional man.

THE powers that be have done away with the Fracture Department, and in future fracture cases are to be sent to Surgical Out-Patients. This will ensure that the patients will be seen by a member of the Staff earlier than has hitherto been the custom, as, under the old system, a fracture sustained on Friday did not come to the surgeon until the following Thursday. Urgent cases, as usual, will be taken into the Accident Wards and come immediately under the care of the Surgical Staff.

We feel that this protest against the rising tide of specialism might have started more happily. House officers have shown their competence in dealing with minor cases, and no slur is cast on their efficiency. The initial task of reduction is still in their hands, and they are still free to apply the early treatment.

The lot of students is a different matter. More work will be thrown on Surgical Out-Patients and the teaching will suffer. Already the injection of varicose veins, along with such dressings and minor surgery as is necessary, takes up much of the firm's time. Add to this the setting of fractures under anæsthesia and plastering and they will be lucky if they are free by tea-time. A special room equipped with plastering facilities is essential, the Minor Operation Theatre being quite inadequate. At present, splints and the

perquisites of the broken bone are by no means within arm's reach.

Guy's has always been noted for the "wealth of clinical material" of the prospectus, and it is a pity that this valuable teaching material should be scattered rather than concentrated. Surely it is better to see five Colles' fractures in an afternoon, to compare their individual features, rather than to flit from hernia to fractured phalanx at random. It is not as though we were dealing with rarities; every man leaving the Hospital will be called upon to treat fractures at some stage of his career, and how is he to learn except by comparing several similar cases? Further, various authorities vary in details of treatment, and the beginner finds it difficult to grasp essential points. The student will be bewildered, come to the conclusion that fractures are beyond him, so that his future patients will suffer.

The old system of having fracture Out-Patients once a week meant that the patient was often left far too long with inadequate fixation, but this difficulty could be met by arranging attendance twice weekly. He would then be seen in a fully equipped department, and the student would have his cases concentrated for an afternoon's intensive study.

▭

As we go to press the Hospital has just drawn with St. Mary's after an extremely exciting, vigorous and clean match. The re-play will be on Thursday, the 8th March.

▭

THE following story may amuse. One, connected with the Hospital, recently went to a local fishmonger to buy a chicken, but found only three birds left. He remarked that these were probably the remains of a large selection, and therefore not to be recommended. The salesman, however, assured him that these were not the tough remnants but the best of his stock, for the rest had mostly been supplied to Guy's, and "we always pick out the toughest and oldest ones for them."

▭

THE following artistes have kindly consented to perform at the Afternoon Concert, organised by Guy's Ladies' Association, to be held at Londonderry House, Park Lane (by kind permission of the Marquis and Marchioness of Londonderry), on Tuesday next, March 6th, at 3 p.m., when H.R.H. the Duchess of York has graciously consented to be present: Sybil Crawley, Adila Fachiri, Maria Korchinska (Countess Benckendorff), John Hunt and The Hon. W. Brownlow.

A few tickets are still available at 30*s.* and 21*s.* on immediate application to The Appeal Office, Guy's Hospital, S.E.1.

Obituary

EDWARD H. DE B. CROWTHER-SMITH

EDWARD CROWTHER-SMITH died in Stephen in the early hours of Tuesday, February 20th, of an acute diphtheritic toxæmia, after an illness of only 36 hours' duration. He was 24 years of age.

There is something indescribably shocking about the death of a young man. When death gently terminates a ripe old age it is sad, but when youth is snatched rudely away in the midst of its ambitions and enthusiasms it does not seem sad—it seems cruel, ruthless, unreasonable, and it is not easy to answer the question "Why?" Why Teddy of all people? He had the spirit of perpetual youth—he was known to some of his friends as "The Babe"; he had freshness; he had eagerness.

He was shy by nature and so it took some time before one pierced the surface of acquaintance. He was intensely modest, and his modesty led him to adopt a cloak of diffidence, of indefinition and of self-depreciation, which might have deceived those who came across him casually. It was a cloak which he very seldom discarded, but it had a lining of such priceless worth that its outer surface seemed transparent to anyone who took the trouble to cast a second glance at it.

His acquaintances were all those with whom he came in contact, for no one who met him could fail to smile at such a spectacle of ingenuous joy, nor could one readily forget the tonic effect of the encounter.

His friends were those who cared to look beneath the surface. He never sought a friendship—he had too modest an opinion of his own companionship; he never repulsed a friend. His quite astounding loyalty, his unselfishness and his basic common sense led many to confide in him. He seldom spoke of his own troubles—I don't believe he had many; I have never seen him really unhappy.

In his work he displayed the same superficial diffidence, but never to the detriment of the patient. He was invariably courteous and cheerful with patients, nurses and colleagues, and was, consequently, a favourite with all. He had an intelligence well above the average, and an inquiring mind which refused to believe a statement merely because he had read it in a text-book. He

was particularly interested in gynæcology and obstetrics, and went to considerable pains to acquire a sound theoretical knowledge of the recent advances in these subjects before putting the theory into practice. He took an individual interest in his patients and would get them to come and see him apart from their regular Out-patient's attendances. "Teddy's Clinic" in the Front Surgery was well known to all who worked down there.

As in his work, so in his private life he was essentially honest and good-natured. He never did a mean action, nor was he thoughtless. He was tolerant and saw good in everybody, just as he saw joy and pleasure in everything.

So why Teddy of all people? Is there any possible explanation for such a cruel event? Cruel? Cruel to whom? To Teddy? No. He has been cut off in his prime, his eagerness and enthusiasm paralysed with stunning suddenness as though they were deadly vices instead of too rare virtues. But how much better for Peter Pan that he was not allowed to grow up, that he was never allowed to experience the bitterness of middle age, that he was never given the chance to develop that sneering cynicism which is the offspring of disillusionment. Cruel? Yes, but only to those he leaves behind to marvel yet again at the curious ways of Providence.

P. M. F. B.

An Unusual Case of Bicuspid Aortic Valve

By Maurice Campbell, O.B.E., M.D.

THE following case is of interest because of the presence of a bicuspid valve and because of the difficulty of deciding, even after an autopsy, why the bicuspid valve became incompetent when it did, why he developed congestive heart failure when he did, and what part, if any, syphilis played in these two stages.

He was first seen in September, 1932, complaining of shortness of breath, palpitation and throbbing in the neck, which had been present for six months and worse the last month. He was 35 years of age and had always enjoyed good health, except for malaria and paratyphoid in West Africa about 1923. In 1927, when he was treated for slight bronchitis, his doctor thought his heart normal, and about the same time he was passed for life insurance without comment.

In January, 1932, he was in bed for a week with pyrexia. His heart was not mentioned then and he felt no throbbing in the neck, but after he found himself more short of breath than usual when running for a bus. In April he was again in bed for three weeks with sweating, tachycardia and persistent pyrexia for which no cause was found. He now noticed the pulsation in his neck, and his doctor found a murmur and a dilated heart and thought he had rheumatic endocarditis, though there had been no joint pains or other rheumatic manifestations. He improved enough to carry on work as a salesman, but had to take it more easily.

He was sent to see me in September by Dr. G. K. Reeves, as he was getting more short of breath. His heart was enlarged to the left and slightly to the right (*see Fig.* 1; max. trans. diameter 14.3 cms.). There was a loud aortic diastolic murmur with all the signs of free regurgitation (B.P. 130/60). The murmur audible at the apex was thought to be conducted from the aortic

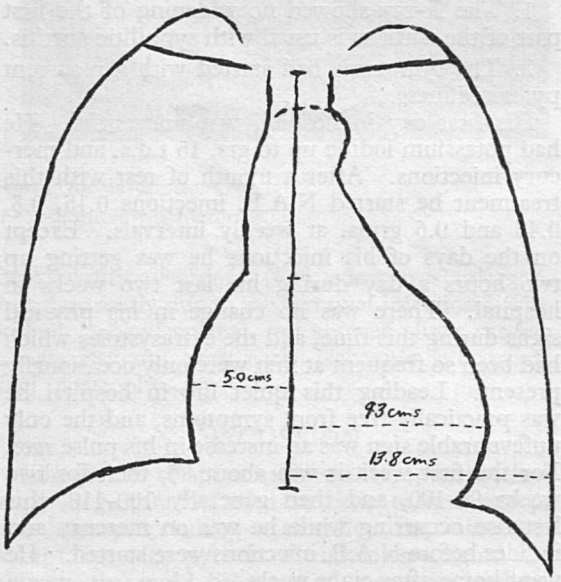


Fig. 1.—Orthodiagram of the Heart in September, 1932

area. Extrasystoles had been so frequent that fibrillation was suspected, but there were not so many when he came to hospital. The electrocardiogram did not show left ventricular preponderance; the QRS waves were just widened and the T-waves almost flat; there were extrasystoles from the left ventricle. He was admitted to hospital as possible rheumatic carditis, without other rheumatic manifestations, unusually late in life.

Infective endocarditis was excluded on the following grounds :—

1. He was apyrexial during his eight weeks in hospital.
2. The spleen was not palpable.
3. The urine showed no abnormality.
4. There were no Osler's nodes or other embolic manifestations.
5. There was no clubbing of the fingers.
6. Blood culture was negative.

Syphilitic aortitis with aortic incompetence was diagnosed, on the following grounds :—

1. Aortic incompetence in a man of 37, without a rheumatic history or any X-ray evidence of mitral stenosis.
2. The strongly positive Wassermann and Kahn reactions.
3. A history that he had exposed himself to possible infection in West Africa in 1921-22, though so far as he knew he had not suffered from any venereal disease. (He had no children, but his wife had had an operation before marriage which made this impossible.)

The only points against this diagnosis were :—

1. The X-ray showed no widening of the first part of the aorta as is usual with syphilitic aortitis.
2. The symptoms had started with a recurrent pyrexial illness.

His first day in hospital was uneventful. He had potassium iodide up to grs. 15 t.d.s. and mercury injections. After a month of rest with this treatment he started N.A.B. injections 0.15, 0.3, 0.45 and 0.6 grms. at weekly intervals. Except on the days of his injections he was getting up two hours a day during his last two weeks in hospital. There was no change in his physical signs during this time, and the extrasystoles which had been so frequent at first were only occasionally present. Leading this quiet life in hospital he was practically free from symptoms, and the only unfavourable sign was an increase in his pulse rate. For the first week it was about 80, then for two weeks 90-100, and then generally 100-110, this last rise occurring while he was on mercury and iodides before N.A.B. injections were started. He went home after eight weeks.

The first night at home, although he had not indulged in any unwise exertion, he had severe nocturnal dyspnœa and persistent coughing with frothy sputum. There had been nothing like this before. Similar attacks recurred several times and he was in bed for three weeks. In spite of this rest he became much more short of breath, with orthopnœa and congestive failure, of which there had been no signs previously.

After three weeks he was allowed up in his bedroom, but the congestive failure became worse and he had to return to bed. I saw him again on 12th December, 1932. There was gross œdema of the legs extending up the thighs and abdominal wall, with enlargement of the liver and congestion of the lungs. The signs of aortic regurgitation were even more striking than before, and the B.P. was 180/40. There was much orthopnœa, especially at night, and he did not seem likely to live for long. No further injections of arsenic had been given after his first discharge from hospital.

He was re-admitted, and during the first week the urinary output only averaged 13 oz. daily. On tincture of digitalis ℥ i daily, this increased to 22 oz., but there was little change in the general anasarca. He vomited most mornings, and the cough was very troublesome, especially at night, but there were no definite nocturnal attacks of acute pulmonary œdema. The B.P. was generally about 165/50. He was then started on neptal injections, and the urinary output increased to 60 oz. and 40 oz. for the two following days.

Unfortunately he caught influenza, and on 9th January, 1933, his temperature, which had been normal, rose to 102, and his sputum, which had been occasionally tinged with blood, became hæmorrhagic. He was desperately ill, but on the 13th his temperature fell to normal and his pulse, which had been 130, came back to 100. For a few days he seemed to be improving, but on the 19th he relapsed, the temperature and pulse rising again, and he died three days later with signs of broncho-pneumonia. The actual cause of death was thus influenza and broncho-pneumonia, but it seemed unlikely that he would have lived for more than a few weeks, even apart from this incidental and terminal infection. He was looked on as an ordinary case of heart failure secondary to syphilitic aortitis, with incompetence of the aortic valve, and it was feared that vigorous anti-syphilitic treatment had precipitated his congestive failure.

AUTOPSY

The post-mortem by Dr. C. K. Simpson, to whom I am indebted for this part of the report and for the microscopical sections, showed generalised anasarca. Except for the findings in the heart, everything was as might be expected in a case of congestive heart failure with a terminal influenza and broncho-pneumonia.

There were 8 oz. of fluid in the pericardial sac. The heart weighed 315 grams and showed dilatation of all cavities, especially of the left ventricle. To the naked eye the muscle appeared softened, but otherwise normal; on section there was cloudy swelling and patchy perivascular

changes, mainly subendocardial, with early fatty degeneration. There were no signs of occlusion of the smaller branches of the coronary arteries, and the changes found were older than the terminal pneumonia.

The aortic valve was bicuspid only, the right posterior and a left cusp being found, the last presumably representing the left posterior and the anterior as it contained both coronary orifices. As far as size and structure were concerned they did not appear incompetent, but, unfortunately, the intact valve was not tested hydrostatically. There was no disease of any valves.

The aorta looked normal except for very slight atheromatous changes, and the lumen did not appear enlarged. There was nothing to suggest syphilitic aortitis, and this was confirmed by examination of sections which only showed exceedingly mild and slightly irregular internal hyperplasia.

The lungs showed old pleurisy and recent pleurisy over the right lower lobe, which was almost entirely solid, exceedingly œdematous, and becoming grey. There was a smaller, but similar, patch in the left upper lobe. Section showed a confluent bronchiolar pneumonic consolidation, sero-cellular and devoid of hæmorrhages. There was also severe membranous and hæmorrhagic tracheitis and bronchitis with recent bronchiolitis. Incidentally, influenza in the early part of 1933 often seemed to give rise to blood-stained sputum when there were no signs of pneumonia and in this case the condition of his trachea and bronchi would easily have accounted for some of his blood-stained sputum, apart from his pneumonia.

There were three pints of clear fluid in the peritoneal cavity. The stomach was congested and the liver showed a terminal zonal congestion (without necrosis or any fatty change); there was no syphilitic disorder. The spleen was enlarged, but apparently due to the terminal infection. The kidneys looked normal, but showed slight cardiac congestion and very early ischæmic subcortical foci of atrophy.

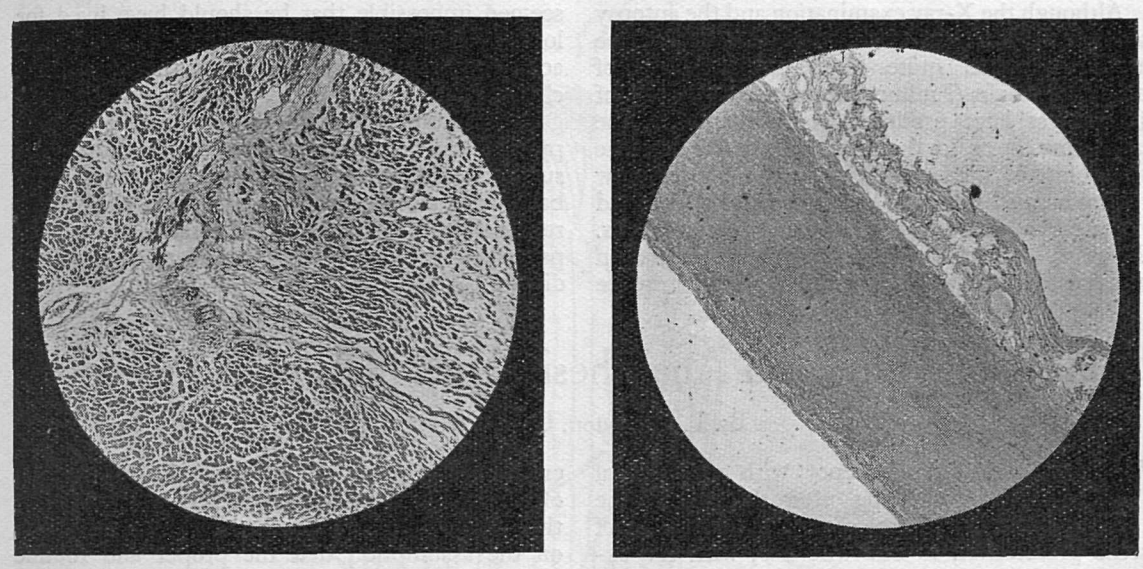


Fig. 2.—Sections of the Heart and Aorta (for descriptions see text).
(I am indebted to Dr. Cosin for these micro-photographs.)

DISCUSSION

The points of special interest were, firstly, free aortic regurgitation with so little to find except the bicuspid valve; secondly, the onset of symptoms with pyrexia of unknown origin, and thirdly, the rapid progress of congestive failure, perhaps precipitated by arsenical treatment.

Osler (*Trans. Assoc. Amer. Phys.*, 1885, i, 185) discussed the bicuspid aortic valve, and drew attention to the cases where infective endocarditis developed on them. Wauchope (*Quart, Journ. Med.*, 1927-28, xxi, 383) has recently reviewed the published cases of bicuspid aortic valve and added 52 from the post-mortem records of the London Hospital. It is not a very rare condition, being found in about three of each 1,000 autopsies. Nearly one-quarter of these cases had developed

infective endocarditis, and this was more common than any other single combination. Where aortic incompetence was found it was always due to some associated lesion. This must have been so in the present case, because there was no evidence of aortic incompetence until the last few months of life, but the exact nature of the additional factor was less obvious than usual.

Although the X-ray examination and the autopsy showed little, if any, evidence of dilatation of the aorta, it seems quite clear that infection of unknown origin (? influenzal) in the early part of 1932 must have produced some change in the heart muscle or in the aorta which led to some stretching of the aortic ring, sufficient to allow regurgitation through a bicuspid valve which had no reserve and readily became incompetent. There was no real evidence that the regurgitation was due to syphilitic disease, although the presence of aortic regurgitation in a man with a positive Wassermann reaction suggested this so strongly.

It is difficult to be sure if the changes in the heart muscle were due to the two pyrexial attacks, to the syphilitic infection, or to the anti-syphilitic treatment, or to the last two causes combined. They were not due to the terminal influenza and broncho-pneumonia, for the congestive heart failure was extreme before these developed, and it seemed impossible that he should have lived for long. The absence of syphilitic changes in the aorta is some argument against the myocardial changes being syphilitic. The time when congestive failure developed shows that the original pyrexia was certainly not the sole cause, and suggests that the anti-syphilitic treatment—probably the arsenical injections—were also partly responsible. This is a recognised danger in patients with heart failure secondary to syphilitic disease.

Some Notes on Local Anæsthesia, with Illustrative Anecdotes

By T. B. Layton, D.S.O., M.S.

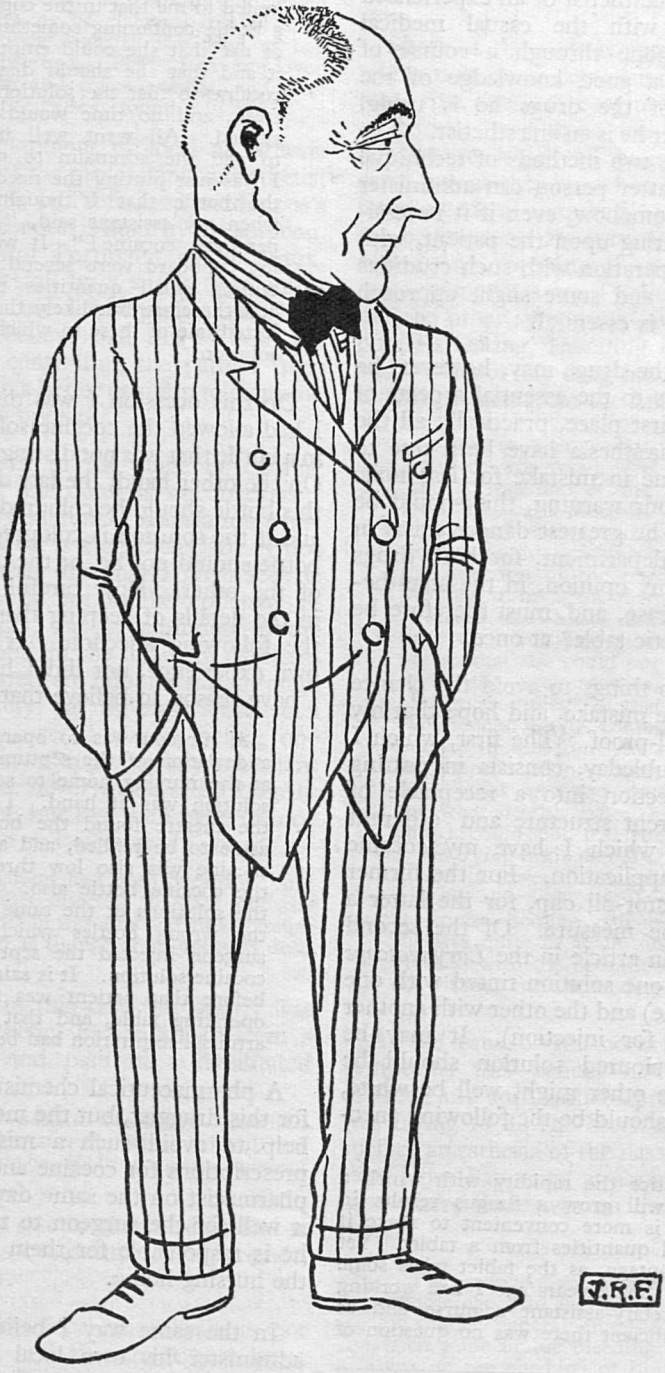
THE increased frequency with which local anæsthesia is being used throughout the hospital is a matter of great interest, and of some gratification to one who has, with the exception of the eye surgeons, longer than anyone else looked upon its use as the proper and essential method of doing a large and important part of his branch of surgery; and some notes on the subject illustrated by personal experiences may be of value.

I.—THE ANÆSTHETIC DRUGS

It was in September, 1924, that the visiting Association of Throat and Ear Surgeons went to Amsterdam. In my own mind I had already decided that local anæsthesia should be used in all operations on the nose, and that if this were for some reason unsuitable, the question of any operation should be reconsidered. In Amsterdam, however, I found all surgery being considered from a view-point diametrically opposite from that in which I had grown up. Ophthalmology excepted, we looked upon the routine method of doing any operation as that performed under general anæsthesia, and if a general anæsthetic were impossible we used to consider whether the operation should be done without any anæsthetic or whether it should not be done at all. Of recent years we had further considered whether such an operation might be done under local anæsthesia in lieu of general, but this idea on the outbreak of the war had hardly entered the minds of any except in the departments of dental and nasal surgery. But ten years after that date surgery was being done in Amsterdam on the assumption that the proper and routine method is to do any operation under local anæsthesia, and that only when, for some combination of reasons, a local anæsthetic is unsuitable, should it be done under a general anæsthetic. The possibility of there being such a surgical view-point made a great impression on me, and I returned home wondering whether the time would ever come when such a doctrine were accepted throughout the surgical world. From what I see around me to-day I believe it to be much nearer than most think.

The influence that this visit had upon me was greatly enhanced by the personality of Prof. W. Noordenbos. He summed up the situation thus: "Local anæsthesia is kinder to the patient, but a greater strain upon the surgeon. It is therefore nobler in its use."

The beginner is inclined to think that the administration of local anæsthesia is merely a question of injecting a certain amount of fluid into an anatomical site of the human body. This is far from the truth. Indeed, the administration of the drugs is the smallest part of the technique. By far the greater part of this is the proper control and management of the patient from the mental aspect. As a matter of fact, the same is true of general anæsthesia. This may be recognised by



"JOEY"

comparing one of the great artists, whether he or she be a whole-time anæsthetist or an experienced general practitioner, with the casual medical officer who, having gone through a course of instruction and with a good knowledge of the physiological action of the drugs he is using, thinks that for ever after he is an anæsthetist. The difference between the two methods of technique is that, whereas the latter person can administer a general anæsthetic somehow, even if it necessitates two assistants sitting upon the patient, with local anæsthesia the operation with such crudities would be impossible, and some slight approach to the artistic element is essential.

A few notes upon the drugs may, however, be of help before we pass to the essential aspects of the subject. In the first place, practically all the deaths under local anæsthesia have been due to the injection of cocaine in mistake for less toxic drugs. Having had our warning, this should be impossible to-day. The greatest danger exists in the nose and throat department, for both drugs are still essential, in my opinion, in the anæsthetisation of the same case, and, must therefore be placed on the anæsthetic table* at once.

I have adopted two things to avoid the chance of making this terrible mistake, and hope that my methods now are fool-proof. The first, which I learnt from Mr. Doubleday, consists in putting my solution for injection into a receptacle of different colour different structure and different shape from that in which I have my cocaine solution for surface application. For the former I use an earthern castor-oil cup, for the latter a glass minim medicine measure. Of the second I read in an American article in the *Laryngoscope* it consists in having one solution tinted with one colour (red for cocaine) and the other with another (blue for the drug for injection). It may be thought that one coloured solution should be enough, and that the other might well be white, but how careful one should be the following anecdote will show :—

> In private practice the rapidity with which a cocaine solution will grow a fungus results in waste, so that it is more convenient to make it up fresh in small quantities from a tablet. Yet this has a disadvantage, as the tablet takes some time to dissolve. Some years ago I had working with me as secretary-assistant a nurse and as she was highly efficient there was no question of carelessness. I was to do next day a maxillary sinus operation in a nursing home. She suggested to me that in the cupboard would be found a bottle containing something that was no longer of use that she could empty this bottle and boil it and that she should dissolve in it a tablet of cocaine so that the solution would be ready, but fresh, and no time would be wasted in getting started. All went well until I was preparing to add the adrenalin to my tutocaine solution. I was just putting the needle of my syringe into the bottle that I thought contained adrenalin when my assistant said, " Take care, that is 20 per cent. cocaine ! " It was but natural that in my cupboard were several adrenalin bottles containing small quantities that had deteriorated, and therefore but likely that she should have selected one of these in which to make up the fresh solution.

On this occasion I was disobeying the law, as I had allowed the cocaine solution to be made up in a bottle that was not distinguishable to the touch. On the other hand, the law does not demand that this bottle should be coloured—that is but custom, and if the solution is coloured it is better that the bottle should not be, or the one defeats the object of the other. How careful one should be even in the details of keeping these drugs is shown by the following anecdote. It was not within my own experience, nor did I have it first-hand, but I have reason to believe that it is true :—

> A surgeon was to operate upon a patient for a deviation of the septum, and asked the Sister at the nursing home to see that some novocaine solution was at hand. The Sister in charge of the theatre found the bottle empty and put it aside to be refilled, and as the stock solution of cocaine was also low threw that away and sent the cocaine bottle also. The druggist made up the solutions at the same time and put them in the wrong bottles which were identical. The surgeon injected the septum nasi with a strong cocaine solution. It is said that it was eight hours before that patient was fit to be taken to the operating table, and that during all these hours artificial respiration had been necessary.

A pharmaceutical chemist will make no excuse for this druggist, but the medical man can at least help to avoid such a mistake by not sending prescriptions for cocaine and for novocaine to the pharmacist on the same day. Personally, I think it well for the surgeon to take his own drugs as he is responsible for them and not the owner of the nursing home.

In the same way I believe it best for him to administer his own local anæsthesia. The late Dr. W. S. Syme told the following anecdote at the Laryngological Section of the R.S.M. :—

> He was just finishing an operation when his assistant rushed in with consternation on his face to say that he had injected the tonsils of

*Note.—This should be as distinct from the tables on which instruments or sutures are laid out as with general anæsthesia. The fact that the injection of the drugs is an aseptic technique is no reason for confusing the administration of anæsthesia with the execution of the operation.

the next patient with cocaine instead of novocaine. Dr. Syme at once had the patient brought into the operating theatre and rapidly enucleated the tonsils, thereby, as he claimed, freeing from the peritonsillar tissue such of the drug as had not then been absorbed. They then employed artificial respiration and coffee enemas, and after a struggle pulled the patient round.

Whether the development of local anæsthesia spells the extinction of the professional anæsthetist it is impossible to say. In Professor Noordenbos's clinic all the anæsthetisation is done by the surgeon, but in that of Professor Portmann, of Bordeaux, it is done with great skill by a whole-time anæsthetist. In my own case I had perforce to do it myself at first, and believe that this is best, for then the surgeon is controlling the patient from the beginning and is in a better position to continue this when he starts to operate.

Whether the patient in the stage of cocaine poisoning in the last anecdotes is unconscious I do not know, but the cessation of respiration while the pulse goes quietly on is a characteristic symptom, and the only other one that I have seen is that of a convulsive fit not unlike epilepsy, in which the patient falls, has a jactitation of the arms and legs, goes blue in the lip, with clenched teeth so that the expired air bubbles out through the saliva. Fortunately, in my experience such cases have rapidly recovered almost before one has had an opportunity of applying any treatment or first aid, and I have never witnessed a tragedy under local anæsthesia, but two who were trained by me have had a case and recounted it to me :—

In the first the patient had been cocainised and the trocar and canula inserted to wash out the antrum. As the syringe was attached and pressure exerted he fell down as though shot, and was dead immediately.

It is probable that in this case the fatality was not due to the anæsthetic, but to shock from a combination of fear and pain in a debilitated individual.

In the second the patient was being cocainised for washing out the antrum when convulsions occurred, and within a short time the patient had died.

This was apparently due to the cocaine, and is the only death that has come into my experience, even by direct hearsay.

Such cases show that local anæsthesia is not devoid of risk to life, and that great care must constantly be exerted. Whether the risk is greater or less than that from general anæsthesia, it is impossible to say. The vast majority of administrations are but slight ones, analogous to a gas administration or even less, and yet it is just in such slight administrations that such a calamity may arise.

Short of the serious symptoms of cessation of respiration or of convulsions there are no symptoms that one can recognise as due to the cocaine as distinct from those due to the fear and apprehension to which all patients are liable, in the same way as they are when about to have administered a general anæsthetic. If pain is superadded, these symptoms are increased. Nausea, retching, and actual vomiting if unassociated with vasomotor symptoms are, I believe, due to the cocaine, but the other symptoms—pallor, dilatation of the pupil, sweating, lessening of the pulse—may all occur without any drug having been administered, as will be seen from the following experience :—

I was to operate upon the maxillary sinus of a patient who was a level-headed woman of about 30. It was one of the most suitable cases for local anæsthesia possible. Two well-known rhinologists, my seniors, had come up to see the operation and, this making me nervous, I fumbled the insertion of the needle, withdrawing it and pushing it in again many times, and each time I struck the bone, hurting her. During this time the two visitors were talking quietly, but not so that she could not hear, and, as is natural under the circumstances, they told one another of similar difficulties that they had had in their experiences. The combination of loss of confidence in me from my fumbling, the pain and the apprehension arising from the stories she heard told was too much for her. Suddenly she went deathly pale, the pupils widely dilated, and I could not feel the pulse. In those days I was trying out a dental chair for these operations. I had it lowered immediately, and as the head was put down the pupils started to diminish and the pulse became palpable. In a few minutes she was quite fit again, and willing that I should proceed with the operation. This I proceeded to do without further anxiety.

At the time of the occurrence of the anxious symptoms this patient had had no anæsthetic drug of any sort, either applied or injected, as I was trying to do the block anæsthesia before the surface anæsthesia of the nasal mucosa. A similar experience happened at about the same time in a case where there was no question of local anæsthesia.

The patient, an uncontrolled woman of late middle age, had had her maxillary sinus operated on under general anæsthesia, and as there had been some undue bleeding and the nursing home was on the outskirts of London I had packed her antrum with a ribbon gauze, and as this was thin many yards were used. Until this case I had always held it kinder to remove such packing rapidly, for even if the pain is more intense it it sooner over. I pulled this out rapidly, but there was so much that many coils were circling

around before her eyes, and I know not whether it were pain or surprise at so much coming out of her mouth like ribbons of coloured paper from a conjurer's hat, but she fell back with widely dilated pupils, her breathing stopped, and she was pulseless. I thought her dead, but laid her flat and proceeded to wet the corner of a towel with which to slap her precordial area. As I threw down the bed-clothes I saw her pupils begin to come down again and this was much to my relief for I was alone in the room, the inexperienced child called a nurse having fled shrieking for the matron of the home.

So much for the symptoms due to cocaine. Those due to novocaine are said to be the same. Dr. Laidlaw years ago told me that if cocaine or novocaine were injected rapidly under identical conditions into the vein of a cat the symptoms will be the same and the same dose lethal but that if the same solutions were injected slowly the cocaine would kill but the novocaine cause the animal no harm and he said that the explanation was that the novocaine was rapidly hydrolised and rendered harmless but that the cocaine was not and that therefore a cumulative action arose.

Personally I use tutocaine; it was being used in Noordenbos's clinic when I went there, and therefore I adopted it and have used it ever since. It was reported to have the same anæsthetic powers with half the toxicity of novocaine, so that one could use it twice as strong or in double the quantities of the latter; but I have subsequently seen 70 c.c. of a 1 per cent. solution of novocaine rapidly injected into the neck of an elderly woman without anxiety and doubt whether more is ever needed. Patients feel a palpitation of the heart as the solution is injected, and sometimes show a circum-oral pallor, but these symptoms soon pass, and are probably due to the associated adrenalin. It is important, therefore, to inject slowly, especially where there is tension in injection, as when under a periosteum or perichondrium. Although the patient complains of anxious distress, no objective symptoms can be recognised. The respiration and pulse rate remain the same, the pupils do not dilate, nor does the blood pressure rise unless the use of adrenalin is excessive.

I do not usually allow the nurse in charge of the theatre to mix the solutions, but, having one who was highly trained and efficient, asked her to do so. At the first injection the patient became much distressed, with precordial pain and an anxious facial expression. My clinical assistant was recording the blood pressure, and it registered a marked rise, which, however, rapidly subsided. The nurse then whispered to me she thought her mental arithmetic had been wrong and that she had put in two drops of adrenalin per c.c. instead of one. We threw the solution away and made up fresh, and no further symptoms arose. This is the only occasion on which any appreciable rise of blood pressure has been recorded by my assistants.

This experience illustrates the legal tenet that the principal is responsible for his agent's torts, and, however capable the nurse-assistant may be, it is probably better to keep the making up of the solutions in one's own hands or to have the requisite amount of adrenalin added by the dispenser. The disadvantage of the latter is that some elasticity in the strength of this drug is advisable, both in different areas of the body and between persons. The elderly or those with damaged arteries stand adrenalin badly.

No doubt research will find new drugs, but, in my opinion, with tutocaine and novocaine we have all that is needed for the present, and that technique in the use of these drugs still falls far short of what is required. When this technique is more fully worked out it may be time for younger men to try fresh variations, but we must remember that ether and chloroform were the first general anæsthetics and have not as yet been superseded. Elder men who have developed their own technique will be advised to stick to the drugs to which they are used, and to leave the exploration of new ones to their juniors.

There remains the question as to whether cocaine can be eliminated. So far as all other parts of the body are considered the answer is probably in the positive, but in the upper respiratory tract it is not so. It is the only drug that gives an efficient surface anæsthesia. Some do not hold this view, and use other drugs for anæsthetisation of the nose for washing out the antrum. I find, however, that this is limited to those who do not use local anæsthesia as a routine or use it badly. For it must be understood that no method of anæsthesia deserves the name unless it fulfils the implications of this word and removes all sensation from the part. Those who use other methods have no right to apply this phrase to them. Two examples may be given. Thus there is no local anæsthesia available for incision of the drum-head of the ear. Bonain's solution does not make it anæsthetic; it may be right to use it, but it is wrong to call it a local anæsthetic, at the most it deadens the pain. And the same applies to freezing the skin with ethyl-chloride. This method is both cruel and inefficient; inefficient because by converting the area of skin into a tough leather the incision that is made often does not go through, and cruel because even if there is a temporary anæsthesia the thawing of the part is more painful than the cut. It is doubtful whether

there is any minor operation for which it is used to-day that would not be done more efficiently and with less distress to the patient by a properly planned local anæsthesia even if this means more time and trouble to the surgeon. If there is any such it would probably be kinder to the patient to make the incision without any attempt at anæsthetisation. Certainly this term should not be applied to the freezing method with ethyl chloride. It is a false humanity that will not summon courage to hurt a patient to the extent of making a small snick in an inflamed area, and then will view without concern the writhings of the patient as the gashed area thaws. It is interesting to note that I have observed this frame of mind more often in women doctors than in men. The incision of a subcutaneous abscess without any anæsthetic should, however, be limited to-day to babes in whom memory is not yet developed. If the snick is skilfully made they will cry less than when being put under a general anæsthetic, and often less than when the nurse washes them.

With these preliminary notes on the drugs to be used I propose in subsequent articles to deal with the essence of the subject—the mental condition of the patient, and how this may be controlled first and foremost by the surgeon, but also by the help of other drugs.

A Cruise to the West Coast of France

ON July 9th, 1932, the cutter *Zona* sailed out of her anchorage in Stonehouse Pool, Plymouth, bound for Belle Isle, in the Bay of Biscay.

The yacht was a 9-ton cutter just over 30 feet long, with a small auxiliary engine; the crew consisted of the skipper, who also performed the cooking, the mate, who was in charge of the navigation, and the "steward." The latter had done very little small-boat sailing, hence his title, but he was in possession of a sextant, which he said he could use.

By the morning of the 9th all stores were aboard, and the mate arrived in the early afternoon, having travelled overnight from London, where he had been dancing till the early hours of the morning.

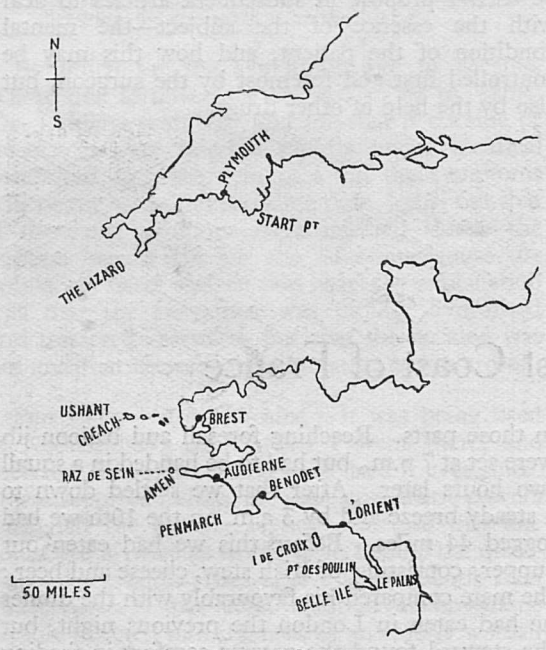
At 3 p.m. we cleared the western entrance to Plymouth Sound with a light N.N.W. breeze. Our plan was to sail outside Ushant and the Saints direct to Belle Isle, and then return via some of the fishing ports on the West Coast, through the Chenal du Four, and perhaps include the Channel Islands if our time limit of three weeks allowed. We had chartered the boat from a friend, and it was necessary to get home by August 1st.

After passing the Eddystone lighthouse to port we lay a course S.W. to clear Ushant by a good margin, and allow for any error in the dead reckoning and also for the strong indraught which occurs in those parts. Reaching foresail and balloon jib were set at 7 p.m., but had to be handed in a squall two hours later. After that we settled down to a steady breeze and by 3 a.m. on the 10th we had logged 44 miles. Before this we had eaten our supper, consisting of Irish stew, cheese and beer; the mate compared his favourably with the dinner he had eaten in London the previous night, but the steward found the greater comfort in feeding the fishes.

During the next 20 hours we had very light winds, which completely boxed the compass, at times accompanied by rain and fog, although we managed to make another 30 on our course. At 1 a.m. on the 11th we sighted Creach Light on Ushant Island bearing S.W. about 40 miles distant, so the course was altered to S.S.W., and again at 7 p.m. to south to close in with the land a little. We had a light N.W. breeze by now, but at 10 a.m. the barometer read 29.68, having registered a fall of 3/10 during the last 36 hours, causing us to be on the lookout for trouble, and, with a slight swell coming out of the S.W., we thought that that was where it would be coming from.

By 1 p.m. Ushant Island had been sighted, and the steward worked out our meridian altitude to be 48.47. N., so that we were able to get a good fix on our position. Ushant Island bore 140 mag., being about 20 miles off. This tallied with our dead-reckoning position within 10 miles, and as

our navigation during the long spell of light winds had at the best been rather erratic, it was very gratifying to find Ushant more or less where we expected to. By 8 p.m. on the 11th, Ushant lay about 10 miles to port, and at this time the wind backed right round to S. by W. With the wind backing like this, together with the fall in the glass, the only obvious and wise thing to do was to come on to the port tack and head away from



Map of Cruise

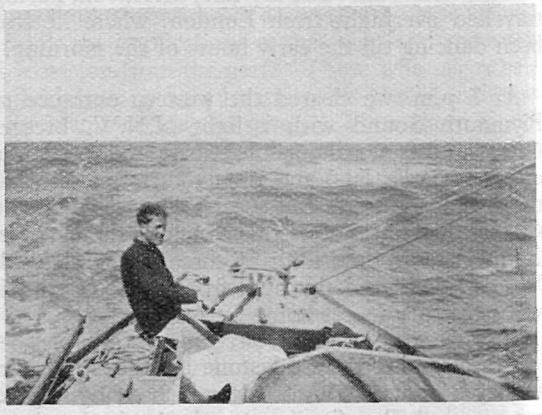
these unpleasant surroundings. This we did, and during the night the breeze piped quite a little bit, causing us to roll a few turns in the mainsail. We passed several ships during the night, and what with their lights, the lights on Ushant, and the flashes of lightning on the north, things seemed a little weird and unusual, and the mate described it as like walking down Piccadilly. The breeze came down in strong squalls at times, and, with the strong tides around, there was quite a little popple. The boat seemed to love it all and just ate her way to windward, keeping delightfully dry, and even allowed the steward to have five hours of undisturbed sleep in the fo'c'sle.

By 5 a.m. on the 12th the wind had again fallen light, and dead reckoning put us about 18 miles west of the Saints Buoy, with the course to Belle Isle as S.E.$\frac{1}{2}$E. During the next seven hours we rolled about in a perfectly hellish swell, but finally picked up a light air from the S.W., which put us on our course again, setting the balloon jib at 3 p.m. During the next few hours we had a simply glorious sail, hot sun, high fleecy clouds sparkling sea and a beam breeze. The skipper produced his concertina and we soon had a fine old sing-song going. We indeed thought that life was good—all cares thrust behind us, examiners miles away, and not a soul or a ship in sight.

By 10.30 p.m. Penmarch Light was just seen bearing 84 mag., and from that bearing and our dead reckoning we estimated our position as being at least 20 miles off Penmarch, and altered course to E.S.E.$\frac{1}{2}$S. for Belle Isle. Two hours later the wind veered, bringing it dead aft on our course, so this was altered to S.E. by E. to bring the wind on our quarter, intending to gybe later. This seemed the time to set the spinaker, which we did, but what a business ! I have always used a squaresail when running free before, and a spinaker seemed a complicated and dangerous sail compared to the squaresail.

By seven in the morning of the 13th it was blowing a hard breeze, and we seemed to be going through the water at an enormous speed, giving the helmsman an anxious time. We rolled up a couple of turns in the mainsail to ease the helm a little, although we were loath to lose the smallest puff of such a fair breeze. During the next two hours we logged 12.7 miles, which is not bad for a boat 29 feet on the waterline. It was by now blowing quite hard, as much wind as we wanted, and in the gusts we were definitely carrying too much sail, so the spinaker was handed and four more turns put in the main.

By this time the seas appeared enormous, with the tops just breaking and great long rollers coming up astern. This was proper Bay weather and what we had come for. The ship seemed to fly along in a series of whoops and behaved magnificently, her little counter just rising at the right moment, letting the seas go rushing by and



A grand breeze aft.

leaving her bows to wallow in them. All around us we could see a fleet of tunny boats sailing very fast with the wind on the beam, their highly-coloured sails with the deep blue of the sea making an unforgetable picture. A small tramp steamer also passed us by and seemed to be making very heavy weather of it, although the wind was on her quarter; we felt much safer and more comfortable in our own little packet.

At 12.15 p.m. we wore the ship on to the port gybe, and during this process we realised how big the seas really were and also that there was more wind than we should care to have if we had to beat against it. At 1.20 p.m. we got our meridian latitude and made it 47.2′, 35″, and the log showed us that we had averaged nearly six knots during the last four hours, and had sailed 54 miles in the last ten hours. This latitude meant that we should see Belle Isle soon, and also it meant that we had run too far south on the starboard gybe. We had to pay for this later; altered course to E.N.E. At 1.45 p.m. Belle Isle was sighted from the masthead amidst shouts of delight. Gulfar Light-house was right over the bowsprit, which meant that we had come at least six miles too far south. To clear the Pointe des Poulains course was altered to N.E. This brought the seas on the beam, and we then realised that sailing with such a breeze aft was quite a different matter to having it abeam. The seas appeared enormous, and they were certainly steep with occasionally an evil-looking breaking crest. Every now and then we had to run off before a particularly nasty-looking sea, each time getting closer to a horrid-looking lee shore.

3 p.m.—Up to now we had not realised the nasty position that we were in. Continually running off had brought us much closer to the western side of Belle Isle than we liked, and we were forced to alter course to N.N.E. to weather the Pointe des Poulains, and at the same time bringing the wind five points off the bow. The next hour and a half was one of the most anxious we have ever spent. Driving the ship with much too much canvas on her, the conditions being such that it was necessary to do so; wind increasing in force and the seas in steepness as we got closer and closer to one of the most vile-looking shores I have ever seen. The ship was a delight to steer and behaved exceedingly well; in fact, the mate and the skipper took the helm at quarter-hour intervals, the other one of them taking bearings on the shore to satisfy ourselves that we really were moving up. The motion, of course, was exceedingly violent, and the cabin seemed a sea of navigation instruments, books and charts. Every now and then a breaking sea would flop aboard, but we took very little green water.

By half-past four we were able to bear away and clear the Pointe des Poulains, although we had to take in a couple more turns in the mainsail. As we got under the lea of the island things became quieter, and it was only then that we realised what perfect fools we had been. If we had thought for one moment we should have realised that, having found ourselves too far west and south, the obvious thing to do was to come round the S.E. corner of the island, where we should have

From the bowsprit

got perfect shelter and avoided the little trouble we had off Goulfar. However, we had made up our minds to round the N.W. end of the island, and sheer pigheadedness must have prevented us from seeing other possibilities. By seven o'clock we were able to shake out our reefs and launch the pram, entering Le Palais Harbour four days and six hours out from Plymouth, which to us seemed an inordinately long time for a distance of 240 miles odd.

This is the first time we had been in Le Palais, and a delightful place it is. It offers perfect shelter

with a peculiar kind of peacefulness and odour all of its own. The people are charmingly happy-go-lucky, and the fishermen seemed very interested in our craft and our doings; almost as soon as we arrived they gave us a very fine piece of tunnyfish. In the evening we went aboard *Galahad*, a little 4-ton cutter belonging to Mr. and Mrs. Russell. These charming people spend their whole summer aboard the *Galahad*, which had been built for them at Port Louis, which is a little way further up the coast. We stayed in Le Palais all the next day, as it was the "Quatorze Juillet," on which date the Frenchmen celebrate the fall of the Bastille in no uncertain manner. The whole town seemed to go mad that night, with fireworks, a brass band very much out of tune, and the men drinking bad brandy or red wine till they could stand no longer.

We should have liked to have stayed longer, but, alas! time would not allow, and on the morrow we set out for Isle Groix.

(*To be continued.*)

Health, Wealth and Happiness of Mankind

(*With apologies to Mr. H. G. Wells*)

By "P. N."

ONE is inclined to suspect that the reason why the popular press greeted the B.M.A. and the Ministry of Health minimum food standard with such a howl was to hide what they were all about. How it succeeded is shown by the fact that among the twelve students whom I tested not one could give me the correct figures of the B.M.A. report; how it failed is shown by the recent report of the Medical Research Group of the Labour Research Department.[1]

The B.M.A. report[2] gives the actual amounts of various foods which the commissioners think will form diets sufficient for men, women and children. The number of calories allowed for an adult man is 3,400 a day. This is less than the amount (3,573 cals.) eaten by men in sedentary occupations[3]; less than the amount found necessary for prisoners doing moderately hard work. It is, therefore, certainly not enough for a man doing heavy work. The calorie allowance for women and children is probably enough. The amount of first-class protein ($1\frac{3}{4}$ oz.) is less than the amount ($2\frac{1}{5}$ oz.) allowed to soldiers in peace time.

Although the vitamin content of this diet may be sufficient for an adult man, the same cannot be said for women during pregnancy and after childbirth and for children. The mere suggestion of a standard minimum allowance of vitamins for women and children is contrary to the modern teaching on the subject. The recent report of the Medical Research Council on vitamins[4] lays stress on the necessity of abundant supplies of vitamins. The chief results of insufficient vitamins are rickets, failure to grow, tuberculosis and a special liability to catch colds and bronchitis. The death rate from tuberculosis is ten times as high in some working-class districts as in well-to-do districts. If the diet of pregnant women is deficient, ill-health, sometimes of a gross nature, is not uncommon, while disturbances of a slighter nature arising from the same cause are probably so common as to be regarded as almost normal. (*Vitamins*,[5] p. 269.) Decay of teeth due to this cause is particularly common. It is known that, if insufficient vitamins are contained in the diet, certain diseases occur, and that these diseases can be prevented, but not all cured, by giving sufficient vitamins. But what is not known is the minimum quantity which is enough to prevent these diseases in human beings. Also the amount of vitamins in various samples of the same food—milk, for example—varies widely.

Finally, the B.M.A. gives 5*s*. $10\frac{1}{2}$*d*. as the price for which the food recommended in its diets can be bought. This is based on such absurd figures as $2\frac{3}{4}$*d*. a pint for milk, when the price fixed for milk by the Marketing Board is $3\frac{1}{2}$*d*., with a fine of £50 for retailers selling at a lower price. Other remarkable prices are: eggs at a penny each, meat at 6*d*. a pound, suet at 6*d*. a pound, tea at 1*s*. 1*d*. a pound.

This sum of 5*s*. $10\frac{1}{2}$*d*. is recommended by the B.M.A. as sufficient to feed and keep in health an adult working man. The Ministry of Health[6] considers it to be $10\frac{1}{2}$*d*. too much, although admitting that it had made no allowance for waste in cooking, etc. It is not, therefore, a figure that can be accepted, since it does away with all traces of scientific reasoning. Presumably the Ministry of Health expects the working classes to eat their food raw.

I think we have to accept that, if food is cooked, and that therefore if some of it is wasted, even if one can live on the B.M.A. diet, one cannot live in health on less. If, therefore, a family cannot afford, on food, the amount considered necessary by the B.M.A., it certainly cannot afford enough to keep them in health. It is interesting, therefore, to compare the relations of

the B.M.A. standard to the full unemployment relief.

	B.M.A. Report Cost.	*Full Unemployment Benefit.*	*Left over for rent, fuel, clothing, etc.*
A man 18-21 years	5/10½	12/6	6/7½
Adult man	5/10½	15/3	9/4½
Adult woman	4/11	13/6	8/7
Man, wife, child (1-2 years)	13/6	25/3	11/-
Man, wife, 3 children (1-2, 2-3, 3-6 years)	19/3½	29/3	8/5¼
Man, wife, 3 children (6-8, 10-12, 12-14 years)	22/6½	29/3	6/7¾

It is obvious that full unemployment benefit is not sufficient even to pay for diets which this Commission consider the minimum necessary for health, together with the other necessities of life, including the abnormally high cost of rent in this country. Moreover, the diets for children range from 2*s.* 8*d.* for a child of one to two years to 5*s.* 4*d.* for a child of 12 to 14 years. The unemployment allowance for a child up to 14 years is 2*s.* a week for everything.

As a result, the amount available for food may, according to the recent report of the Newcastle Dispensary,[7] be as low as 3*s.* 1¼*d.* per head, and, according to the Medical Officer of Health of Hammersmith, can be as low as from 2*s.* 9*d.* to 3*s.* 8*d.* a week per adult man in the case of employed workers and 1*s.* 9*d.* to 1*s.* 11*d.* a week in the case of unemployed.

According to the Newcastle Dispensary, the daily amount of first-class protein eaten by unemployed men is only ¾ oz., and by employed men just over 1 oz. The Save the Children Fund[8] showed that undernourishment had increased from 1925 to 1931 from 0.4 to 21.0 per thousand in Pontypridd. I could fill pages of similar accounts by various medical officers and other equally reliable sources—so much so, that this article would read like some of the early " Nazi Atrocity " pamphlets. However, the following facts are indisputable :—

1. That a man and his family cannot continue to live in health on less than the diets given in the B.M.A. report.

2. That the diets cannot be bought for the prices given.

3. That the full unemployment allowance is not enough even to pay for this meagre diet.

4. That very often wages are not enough to enable the worker to pay for this diet.

5. That thousands of men, women and children employed and unemployed, are living in a condition which inevitably leads to ill-health.

6. That the B.M.A. do not mention any of the above facts and do not give any reason for bringing out the above report or in what way it could or should be used.

Since it was obviously prepared for the Government for some definite purpose and not as an act of philanthropy for the propaganda department of the Socialist parties, we can only guess what that purpose was.

If it was prepared in order to form a basis for putting up wages and the dole the " National Government " would not have been slow to let us know. On the contrary, wages are still going down (*vide* the number of strikes now in progress). If it was prepared in order to show up the dreadful condition of the working classes in England the report or the press would have mentioned it.

One can, therefore, only assume that the B.M.A. figures (or more likely the Ministry of Health figures) will be used as a basis for driving *down* wages on the grounds that a man can feed on 5*s.* 10½*d.* (or 5*s.* 0½*d.*) a week. More probably, however, it is also what it very much looks like—a system of rationing which will be used in the next war and must be put on a par with Lord Rothermere's " 10,000 warplanes for peace, progress and prosperity."

Or does the B.M.A. want us to take its report as an " abstract scientific experiment " like seeing how long a man can sit on a pole 40 feet high or how many doughnuts he can eat in three hours ?

Let me conclude by quoting my charwoman, Mrs. 'Opkins, whose opinion I asked about the whole affair. " Well, sir," said Mrs. 'Opkins slowly, " I can understand you doctors telling us what to eat, 'cos the more we're ill the more yer makes ; but as for them there Ministers of 'Ealth . . ." she tried hard to find an expression for her feelings ; at last she burst out—" Oo's bloody 'ealth ? "

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Communications

Dr. John William Meek

DR. J. W. MEEK died on January 28th, 1934, aged 80. He seldom came to Guy's in his later years, but he retained a great interest in and warm affection for his old hospital. The late Dr. Peter Horrocks was a great friend of Dr. Meek's, and he would often talk of him and of " Freddy Taylor " and other Guy's celebrities. He would recall the sayings of his old teachers, and had a surprising facility for imitating their mannerisms.

Dr. Meek brought the present writer into the world. When I was a student at Guy's I spent a great many Sundays at Dr. Meek's house in the Norwood Road, and received great kindness from him and his family. His small stature housed a great heart. He had an amazing fund of general knowledge on any and every topic, but the greatest interests of his life were medicine and theology. He was connected all his practising life with the Roupel Park Wesleyan Church, and it was there that a memorial service to him was held. He had a passion for hearing famous preachers of all denominations, and it was upon one such Sunday evening expedition that he met with the accident which led to his last illness. The literature at his bedside at the last was typical of his life interests : the *British Medical Journal*, the *Guy's Gazette* and a book on the " Life and Times of John Wesley."

On Sunday evenings Dr. Meek would sit in his favourite chair with a cigar and expound upon all manner of subjects. When some point caught his fancy he would jump up and scratch the back of his head in his delight. When anything was in doubt he would settle it by reference to one of the books that were ever at his elbow.

He was always interested in Guy's and constantly asked me what I was doing, who I was working under, etc. He was wont to say that he was the last of the generation of general practitioners. Certainly he was one of the last of the good old type of practitioner upon whom the young men of to-day might do worse than model themselves.

Dr. Meek leaves a widow, as kindly and hospitable a soul as himself, and three daughters (one of whom, Dr. Margaret Cruickshank, carries on his practice with her husband). His only son died in childhood, and a memorial window to him is to be seen at Roupel Park Church.

Many will mourn the passing of a fine old Guy's doctor, wise and kind.

A. E. S.

Guy's Hospital Employees' Association

MRS. EASON very kindly invited members of the Employees' Association and their friends to a Whist Drive in the Governors' Court Room on Friday, 23rd February. It was pleasant to see several members who have retired. Everyone thoroughly enjoyed themselves, for the atmosphere was so delightfully friendly and the refreshments so delicious. The beautiful prizes, given by Mrs. Eason, were won by Miss Luxton, Mrs. Winston, Mr. J. H. E. Winston and Mr. Brereton for the highest scores, and Miss Dalley and Mr. Williamson for the lowest. After Mrs. Eason had presented these and the Tennis Cups (Miss Dalley, Ladies' Singles ; Mr. Ireland, Men's Singles) and prizes, Mr. Robbins, Chairman of the Association, thanked her for the most enjoyable evening. As perhaps the oldest employee, he said he knew how pleasant it was to work at Guy's, where all worked together as one large family. Everyone there to-night had to work for their bread and cheese, and he knew that many people had to do work that they hated and could take no interest in. That was not so at Guy's, where everyone knew they were helping on the work of a great and noble institution.

Mr. Eason replied, saying he thanked them on behalf of his wife, who was not used to public speaking. He agreed with all that Mr. Robbins had said, for he, too, had been 42 years at Guy's, and knew that all worked like one family. He said that, unfortunately, the axe would fall on Mr. Robbins and himself before long, and that as Mr. Robbins knew more about the history and traditions of the Hospital than anyone else, being, as it were, the last of those who had shaken hands with Thomas Guy, he hoped he would write down what he knew before he left. This last remark caused much laughter and cries of " Hear, hear ! "

The party then broke up, everyone expressing their enjoyment and thanks to Mrs. Eason for their happy evening.

B. W.

Guy's Hospital Gazette

The Editor will, at all times, be glad to consider articles or sketches, provided that they are accompanied by the writer's name and address, not necessarily for publication. The payment that the GAZETTE can offer is merely nominal. Authors who desire reprints of their papers should make their own arrangements with the printers when they return their proofs. All contributions to be addressed to *The Editor*, who does not accept responsibility for the views expressed by contributors.

Reviews

Rose and Carless's Manual of Surgery. Edited by C. P. G. WAKELEY, F.R.C.S., and J. B. HUNTER, M.Ch., F.R.C.S. Published by Messrs. Bailliere Tindall & Cox, 1933. 14th Edition. 1,487 pages. Published in one or two volumes. *Price* 30*s.*

IT is now 35 years since the first edition of this book was published, and since that time it has held an assured place as a standard text-book of Surgery. In the three years that have elapsed since the last edition, many alterations have been made. In the first place, it can now be had either in one or two volumes for the same price; a more surfaced paper has been used, which has led to an improvement in the reproduction of the illustrations, and enabled the radiograms to be printed side by side with the text as opposed to an appendix at the end. New illustrations have been added to make an average of one figure for every two pages of text.

The text has also, of course, been revised. The chapter on Thoracic Surgery has been entirely re-written, and descriptions of the surgery of the sympathetic, of the Bohler treatment of fractures, of the Winnett-Orr technique, and other similar advances in surgery that have become of general use, have been added. The whole book makes a well-balanced whole, and if certain parts of it are disappointing, that is because a text-book of this kind aims at being a standard one, and does not take notice of views or methods of treatment that have not stood the test of general acceptance for many years.

Combined Text-book of Obstetrics and Gynæcology By J. M. MUNRO KERR, J. HAIG FERGUSON, JAMES YOUNG, and JAMES HENDRY. Published by Messrs. E. & S. Livingstone, Ltd. Second Edition. 1,064 pages. *Price* 35*s.*

AS a large proportion of gynæcology results from bad obstetrics a good text-book on the combined subjects should not only impress on the student their inter-relation, but stress the primary need for a high standard in obstetrics. In addition, much repetition is thus avoided, and the second edition of this well-known text-book, although in every way complete, printed in clear, large print, and amply illustrated, is of reasonable size, and while not frightening the student by its bulk, should also prove an adequate reference book for the practitioner.

The Obstetrical Section is clear and well tabulated. The management of Normal Labour is outlined shortly but adequately, with only three illustrations; this is wise, as methods of delivery vary in the different schools and are essentially practical in acquirement. We find it difficult to believe that the dorsal position is adopted for the third stage of labour " as there is a risk of suction of air into the gaping uterine sinuses which may cause air embolism." We particularly liked the clear division of abnormal labour into—A, Faults of the Forces; B, Faults of the Passenger; C, Faults of the Passage—but missed any concise and detailed account of the treatment of Disproportion so adequately treated in Eden and Holland's " Manual."

Of value in this second edition are additional chapters on the infant in the first month, by Professor Charles McNeil; on Radiology, by Duncan Wright, and the Problem of Maternal Mortality, which amounts to a short precis of Professor Monro-Kerr's recent volume on Maternal Mortality and Morbidity, reviewed in our last number.

The section on Gynæcology is not so clear in exposition as that devoted to Obstetrics, and does not fulfil the promise in the new Preface in being up to date with the more established of recent advances, especially in relation to the Endocrines.

We can recommend this book to those who do not want to buy two separate volumes on Obstetrics and Gynæcology, but require authoritative and accurate information in a palatable form, and we are surprised that it is not better known in this hospital.

The Guy's Hospital Reports. Vol. 83, No. 4. October, 1933. *Price* 12*s.* 6*d.*

THIS number of the Reports is mainly devoted to a symposium on the pneumococcal infections. Much attention has been attracted during the last few years by the important biochemical discoveries of Heidelberger and Avery concerning the capsular carbohydrates peculiar to the various types of Fraenkels pneumococcus, and also by the valuable additions to our knowledge of pathological processes in the lung made by Blake and Cecil in the course of their study of experimental pneumonia in the monkey. A clinical review based on the experience and records of a large English general hospital is, therefore, timely, to say the least.

Drs. J. A. Ryle and R. L. Waterfield make the opening contribution to this symposium in the form of a discussion of " pneumococcal fever," a term they deliberately adopt in preference to that of lobar pneumonia. Their figures abstracted

from the Guy's records for the last nine years seem to confirm the general impression that this disease is definitely less likely to be fatal in this country than in the United States. They also reach sound, if somewhat conservative, conclusions as to the indications for and value of the serum therapy at present available. The statement (p. 397) that Type II is the *most* virulent may, perhaps, be questioned. There seem to be no satisfactory English figures on this point at the moment, and it is becoming increasingly evident that conclusions drawn from American statistics do not necessarily apply on this side of the Atlantic.

Dr. H. C. Cameron's article on the pneumococcal infections of childhood stresses the important distinction between synpnemonic and metapneumonic empyemata and the appropriate differences in treatment. Acute infections of the peritoneal cavity for which the pneumococcus is responsible are considered by this author to be amenable to operative treatment based on very similar considerations to those which hold good in the case of the thorax. The interesting immunological questions raised by the marked differences in the reaction of young children and adults to infection by the same organism also receive consideration in the concluding section of this article.

Mr. W. M. Mollison's contribution deals with pneumococcal infection of the nose, throat and ear, and in a further paper Mr. C. H. Fagge discusses the somewhat uncommon complication of arthritis from a surgical point of view. A provocative article on the kidney complications seen in the course of pneumococcal infections is by Dr. Rake, who covers some extremely controversial ground in his discussion of the correlation of clinical observation and animal experiment in the effort to establish a satisfactory basis for the pathology of kidney disease in general The concluding paper by Dr Waterfield on pneumococcal meningitis also encompasses a full account of the interesting condition of meningeal irirtation so frequently encountered during the early stages of the pneumococcal infections in children.

In that part of the number which follows the pneumococcal symposium the thirteenth of Professor Nicholson's " Studies on Tumour Formation " provides a further attack with renewed zest and in that particular author's singularly faultless style on the " dust that is of our own raising." The more protracted the laying of this confusing cloud the happier we shall be.

Drs. Burger, Hartfall and Witts add considerably to our very scanty fund of information concerning the secretion of mucus by the stomach in their paper, which has a special reference to the achlorhydric anæmias. The ninth of Dr. Osman's " Studies in Bright's Disease " concerns the removal of septic foci in the upper respiratory tract in cases of unresolved acute nephritis. The conclusion that such a procedure is but rarely of value in hastening recovery is certainly unorthodox, and, based on a series of seven cases, can hardly command unqualified support. Further investigation of a much more extensive nature would appear to be required on this extremely important point in the treatment of a chronic and most crippling disease.

E. T. C.

Sport

Rugby

Guy's v. Aberavon

THE visit of Aberavon to Honor Oak Park on Saturday, February 10th, proved a great attraction, and after one of the best and most exciting games seen at the ground this season Guy's obtained the verdict by a placed goal and 2 penalty goals (11 points) to a dropped goal, a penalty goal and a try (10 points).

The meeting of these two sides is always a popular event, especially in South Wales, where Guy's is assured of a tremendous welcome.

Our visitors have a very enthusiastic supporters' club, and quite a number accompanied the team on their annual visit to London. Their enthusiasm, especially in the second half when their side were hammering away at the Hospital defence, encouraged the visitors to great efforts, which were only frustrated by a magnificent defence.

It was intended to field the team that would probably represent the Hospital in the next round of the Hospitals' Cup, but at the last moment it was found that C. G. Wright and A. G. Heberlein were unfit; on the other hand, Aberavon fielded full strength. This was a fine test for Guy's, in view of their Cup-tie with London, as Aberavon, led by that experienced forward E. M. Jenkins, the Welsh international, and with a powerful back division, were quite capable of pulling out the best that the Hospital could produce.

After their long journey, Aberavon took some time to settle down, with the result that in the first half Guy's were definitely on top and at the

interval led by 11 points to three. After half-time the visitors made storming raids on the Hospital line and, considering that they were considerably out-weighted, it speaks volumes for the Hospital defence that they only allowed the visitors to cross their line on one occasion.

All through the game the struggle between the packs was tremendous, but Guy's had a great advantage in the set scrummages, where M. R. Kark showed splendid ability as a hooker. Every man did his share against the heavier and bigger Aberavon forwards, but in the loose Morgan, Hogbin and Darke were outstanding.

A great duel was fought out between Bowles and Roberts at the base of the scrum, and Bowles, despite the efforts of Roberts to smother his movements, did exceptionally well to get the ball back as he did.

In the early stages of the game Guy's made several attempts to get the three-quarters going, but Bassett, Thomas and Randall Lewis were very effective in their tackling. Guy's took the lead when Hogbin kicked a fine penalty kick from near the halfway line and repeated the effort later.

Aberavon made desperate efforts to reduce the lead, but their handling was not too sure, and several promising attacks broke down through lack of understanding. Eventually Guy's gained the upper hand and forced Aberavon to defend in their 25. After several onslaughts and following good work by Johnson, Giesen made a very clever and determined run through the centre and, although tackled by at least two opponents, he managed to touch down for a great try, to which Hogbin added the goal points.

Near the interval Guy's were penalised for offside, and Owen-James kicked a goal to reduce the deficit to eight points. With the change of ends, Aberavon were a different side, and, encouraged by their supporters, they hammered away at the Hospital line, and Harding actually crossed, but, owing to a forward pass, he was called back to a five-yards scrum.

Splendid forward rushes in which Vickery, Williams and Avory were conspicuous, looked very dangerous, and, following a scrum near the line, S. Williams passed smartly to Lewis, who scored a good try, which was not converted.

Aberavon should have scored immediately afterwards, but Thomas missed a great chance by passing badly. However, he made amends a moment later by dropping a goal from the 25 line. Encouraged by this success Aberavon increased their efforts and many attempts were made by their backs to cross ; one particular run by Bassett was only stopped by Lindsey a yard from the line.

With only a point separating the teams the excitement was intense, and after the Hospital had withstood the attacks of the visitors, they returned to the offensive as the result of a good kick to touch by Morgan.

Darke injured his shoulder rather badly when falling to the ground, and it was noticed that Alexander was limping. However, Guy's pegged away and eventually carried the ball into Aberavon's 25, where James relieved and soon after the whistle sounded for no-side

It was a clean, hard game, fought out at a fast pace from start to finish. Guy's deserved their success ; their defence was magnificent.

Team.—M. J. Lindsey ; R. M. de Gregory, J. E. Giesen, P. C. Alexander, A. G. Johnston ; J. van A. Steytler, V. H. Bowles ; H. H. Crabbe, M. R. Kark, C. S. Darke, I. G. Robin, R. J. Drummond, T. Morgan, R. A. P. Hogbin, A. R. Clarke.

Guy's v. Old Millhillians

VISITING Headstone Lane on Saturday, February 17th, Guy's gained a decisive victory by 4 placed goals and a try (23 points) to nil.

With the exception of C. S. Darke, who was injured against Aberavon, the Hospital fielded their full side, but, although the back division combined beautifully, the forwards were rather disappointing against a hustling pack. In the line-out Guy's were overshadowed by the splendid efforts of Benham and Childs, but in the loose the Hospital did very well to get the ball back so cleverly.

Although Tippett hooked exceedingly well for the home side, A. R. Clarke, by his rapid breaking away from the scrum, checked many movements from developing. Giesen was at the top of his form, and his defence, apart from his kicking, was magnificent. Steytler found it difficult to elude the attentions of R. S. Spong, who was ever ready to frustrate any attempt by the Hospital to open up.

In the first half, Guy's established a lead of 15 points as the result of tries scored by Wright, Giesen and Johnson, each being converted by Hogbin.

After the interval the Old Boys put up a most determined fight, and Stockell and Saunders all but scored, but Guy's gradually assumed the ascendancy, and the issue was put beyond doubt when Alexander and Giesen went over for two fine tries, and Hogbin converted the last.

Team.—M. J. Lindsey ; C. G. Wright, P. C. Alexander, J. E. Giesen (Capt.), A. G. Johnson ; J. van A. Steytler, V. H. Bowles ; H. H. Crabb, M. R. Kark, A. G. Heberlein, I. G. Robin, R. J. Drummond, T. Morgan, R. A. P. Hogbin, A. R. Clarke.

Inter-Hospital Cup, Second Round
Guy's v. London

AT Richmond, on Monday, February 19th, Guy's qualified to meet St. Mary's in the Semi-Final by defeating London by 2 placed goals, a penalty goal and a try (16 points) to a placed goal (5 points).

Guy's took the field without C. S. Darke, whose shoulder had not quite yielded to treatment, but otherwise were at full strength. London fielded a powerful pack—in fact, one of the strongest that Guy's have had to face this season. Their forwards set a cracking pace, and Guy's had all their work cut out to stop them, but once they had obtained a hold upon the situation it was clear that, provided they could get the ball to the backs, they could pull through.

The Guy's three-quarter division did not have many chances, but they took full advantage of the few that came their way. An outstanding feature of the game was the remarkably fine form of C. G. Wright, who was responsible for each of the tries registered for Guy's. Wright has played consistently well throughout the season, but on this occasion he played well up to the standard which carried him into the International Trials.

For the first ten minutes Guy's were harassed by the spirited attacks of the London forwards, and found great difficulty in keeping them in check. In fact, the swiftness of the London forwards must have upset any side, and it was not surprising to find them taking the lead when A. K. Monro crossed following a loose maul, and J. D. Cooper kicked a fine goal.

Following this reverse, Guy's gradually got a hold upon the game and, with the forwards playing with greater fire, Bowles, who played a great game, was able to get the ball more often to his threes.

Whenever Giesen or Alexander obtained possession, they threatened to break through, but the marking was so close and fierce that they were not allowed many opportunities to feed their wings. However, their efforts were rewarded just before half-time, when Giesen passed to Alexander, who in turn sent in Wright for a splendid try, which Hogbin converted with an equally good kick.

Early in the second half Guy's took the lead following some excellent play by their back division, which ended in Wright running magnificently to score another try. A few minutes later Wright repeated the effort, and Hogbin added the goal points to the last try.

London redoubled their efforts and made strenuous attempts to get through, but Guy's put up a splendid defence and eventually increased their lead when London were penalised and Hogbin kicked another goal.

In the closing minutes, both sets of forwards went all out and London came near to scoring on one or two occasions, but faulty passing let them down.

Team.—M. J. Lindsey; C. G. Wright, P. C. Alexander, J. E. Giesen, A. G. Johnson; J. van A. Steytler, V. H. Bowles; M. R. Kark, A. G. Heberlein, H. H. Crabb, I. G. Robin, R. J. Drummond, R. A. P. Hogbin, T. Morgan, A. R. Clarke.

Association
2nd Round of the Inter-Hospitals' Cup
Guy's v. U.C.H.

AFTER many changes in dates this Cup-tie was played eventually at Perivale on February 21st, and resulted in a win for Guy's by 3 goals to 1.

Guy's won the toss and chose to play against the wind and the sun. The Hospital settled down quickly and for the first 20 minutes carried the play to their opponents' half, the forwards combining well until an injury to James disorganised the attack.

University College Hospital were now getting together, and they opened up the game with long passes which gave the Guy's defence some anxious moments; Hill, in goal, was, however, always equal to the occasion.

After James had gone off the field Guy's lacked combination, and the individual efforts of the forwards never looked like scoring. There was also a tendency to devote too much attention to defence, and the centre-forward was seldom far enough up the field to be a useful factor in the attack.

In the second half, James came back, but could do little more than limp along. In spite of this handicap Guy's pressed strongly, and Rees opened the scoring with a really fine shot. This seemed to put new life into Guy's, who dominated the game from this point, and several shots went just outside.

From a right-wing attack Harvey pushed the ball to Groom, who mis-kicked, but, luckily, Jones-Lewis had come into the centre and gave the goalie no chance with a terrific shot. A few minutes later Rees put Jones-Lewis through, and the winger put Guy's three up with a fine shot from a difficult angle.

From this point the quality of the play deteriorated, with both teams making spasmodic attacks. From one of these University College Hospital

scored, Guy's failing to clear through a misunderstanding between Rees and Henderson.

This was the extent of the scoring, and the Hospital are to be congratulated on such a decisive victory with only ten men.

Result.—3—1. Won.

Team.—C. H. Hill; R. L. V. Henderson, D. A. Priestley; H. A. Lea, S. E. Osborne, J. H. Thomson; R. W. Harvey, G. James, W. A. Groom G. G. G. Rees, H. Jones-Lewis.

Guy's now meet Bart.'s in the Semi-Final, the winners to meet St. Thomas in the Final on the Casuals' Ground at Kingston on March 7th.

Hockey

Guy's v. Hertford College, Oxford

GUY'S visited Oxford on Wednesday, January 31st, for their first match with Hertford College, which the latter won by 5 goals to 1. The ground was very soft, which made going heavy, and the Hospital side appeared to be geared down since their fine performance against the London Hospital, when the ground war iron-hard.

Hertford College started well, their forwards looking dangerous from the beginning, so that with a weakness in the defence it looked as if Guy's were going to be kept busy. After ten minutes' play a good centre by the College right wing ended in a goal being scored.

The Hospital now attacked, and after a run down the wing, Phillips sent the ball across to Trethowan, who just failed to score; the College cleared to touch from the roll in. Franklin got away, but his hard centre was intercepted, and the home side thus averted a dangerous situation. Before half-time Hertford had scored again, and led by 2—0 at the interval.

In the second half the Hospital backs worked splendidly—Greene, Thomson and Quick all being useful in the defence.

Hertford's third goal was a very good one from an awkward position by their inside right.

From the next bully Franklin bore his way through down the left wing, and, after some exciting play in front of goal, the goalie cleared, and gave Dryland an easy shot from which he scored.

Hertford pressed often, and added two more to their score before the end.

Team.—H. V. Brown; A. C. Greene, L. C. Thomson; R. J. F. Campbell, L. A. Quick, A. E. Loden; C. H. Phillips, J. S. W. Dryland, G. O. Jelly, L. N. Trethowan, J. B. Franklin.

2nd Round Inter-Hospital Cup

Guy's v. Middlesex Hospital

GUY'S played Middlesex in the second round of the Cup matches at Motspur Park on Saturday, February 3rd, and lost by 3 goals to 2 after extra time. The ground was extremely hard, frosty and uneven, so that play was fast and rather dangerous. Guy's went hard from the bully off and pressed for most of the first half The forwards were near scoring several times, and, after a rush by the insides, the ball was cleared to Phillips, who had come in from the wing. He made a good first-time shot and scored the first goal.

Guy's soon increased their lead with a goal from Franklin. The shot was nearly saved by the Middlesex goalie, but just trickled over the line. Except for one or two rushes by Middlesex, with which Greene dealt successfully, Guy's had most of the play in the first half and led 2—0 at the interval.

For some unexplained reason the Hospital seemed to get rattled in the second half, and they never looked very formidable. Middlesex, on the other hand, had matters more their own way, and scored early on from their centre forward, who held their forwards well together.

There was a great deal of rushing about, and the positional play of both was distinctly poor. Loden was unfortunate to get hit on the mouth by a stick, but he continued playing and was still a useful member of the side. Middlesex got well away through Handley, their inside right, who was very fast and a goal resulted from his centre.

At two all the whistle blew for time, so the sides changed over for an extra ten minutes each way. The fog became thicker, and it was only possible to see half the length of the ground. Guy's were obviously tired, but the forwards could have passed the ball far more often, and they persistently tried to win through on their own, with the result that they were tackled and had the ball taken away from them every time.

Middlesex forwards got going again and scored, their winning goal in the first change over for extra time.

Greene, who did some splendid work at full-back, and Archer at centre-half were the only two who played with anything like their usual brilliance, and it was disappointing after the good form shown by all in the Cup match *v.* the London Hospital.

Team.—W. H. Clarke; A. C. Greene, C. A. Boucher; R. C. Hill, R. G. Archer, A. E. Loden; C. H. Phillips, J. W. Dryland, G. O. Jelly, L. N. Trethowan, J. B. Franklin.

Guy's v. R.N. and R.M., Chatham

AT Chatham, on Saturday, February 10th, Guy's defeated the Royal Navy and Royal Marines by 7 goals to 3. The home side had some members away, while the Hospital were still without Richmond.

The ground, situated at the top of a hill, was almost perfect, and made the game very enjoyable for everyone. Guy's scored twice in the first half through Rowe, from left inner, and once through Wright from left wing, while the Navy replied once with a good shot. The Hospital had slightly the better of the game in the first half; the forwards particularly gave and received their passes well. The home side attacked at intervals, and their shots at goal were usually very hard, one of which, high up just below the cross-bar, Brown did well to save.

Guy's led 3—1 at half-time, and in the second half they added to this lead, after the Navy had reduced it by two. Archer, who had been backing up the forwards, scored a goal with a reverse stick while the ball was in mid-air, without giving sticks. Jelly added another for the Hospital and, after a good passing movement by the insides, Jelly passed to Dryland, who scored.. Later, Wright hit a short corner; Rowe stopped the ball just right for Dryland to score another goal for the Hospital.

The home side were unfortunate in being handicapped by the absence of their regular goalkeeper, and their substitute was rather inexperienced. Their right-back and their centre-half played extremely well, and saved many rushes by the Hospital.

The Hospital's halves and backs played well, and their inside forwards worked better together than usual.

Team.—H. V. Brown; A. C. Greene, C. A. Boucher; R. C. Hill, R. J. Archer, A. E. Loden; A. S. Bookless, J. W. Dryland, G. O. Jelly, E. B. Rowe, C. F. Wright.

Guy's v. Staff College, Camberley

ALMOST enjoyable game was played by all who visited Camberley on Wednesday, February 14th. Having left London in thick fog, we played in glorious sunshine on an almost perfect ground. Guy's were defeated after a very good game by 6 goals to 3.

From the bully off the Staff College forwards got away, but were stopped by Greene who cleared well. The Guy's forwards lacked finish in the early part of the game, and several times managed to reach the opponents' circle, but no further, and the Staff College scored two goals before the Hospital replied. Brown had plenty to do in goal, and dealt successfully with several shots. Franklin, who was playing well up the field, received a pass, and ran down the left wing to score for Guy's. It was not long before he repeated his solo effort with a second goal. Shortly before half-time Dryland received the ball on his mouth, and retired till the interval, when the College led by 3—2.

In the second half, the Hospital defence were kept busy most of the time, Greene and Turner being on the whole sound at full back. The forwards had a number of passes from Archer, while Rowe and Jelly worked extremely hard in an endeavour to reduce the College's lead, but this was increased through definitely superior forward play. Their forwards were always on the spot, marking their men closely, and anticipating so well as to intercept most of the Hospital's passes.

With the scores 4—2 the Guy's forwards got away, and from a centre by Phillips, Rowe scored a goal with a good first-time shot. Archer was very hard-working and painstaking to feed the forwards, and it was a pity that Dryland narrowly missed the goal twice with easy shots.

The Staff College continued to show their superiority, and added two more goals to win by 6—3. Brown saved a number of shots and played well throughout. The game was extremely well contested and the Staff College, who always play good hockey, won through, being far quicker off the mark than the Hospital.

Team.—H. V. Brown; A. C. Greene, G. H. Turner; L. A. Quick, R. G. Archer, A. E. Loden; C. H. Phillips, J. W. Dryland, G. O. Jelly, E. B. Rowe, J. B. Franklin.

Guy's v. R.N.C. Greenwich

THE return match against the Naval College was played at Motspur Park on Saturday, February 17th, resulting in a win for the College by 7 goals to 3.

Guy's were handicapped by being two short in the early part of the game, during which time the visitors scored three goals. However, the Hospital eventually settled down, and appeared to be quite as good as their opponents until half-time. The College side played well together, and their backs hit the ball hard and cleanly. The Guy's forwards were sent off by a pass from Hill, and, after a centre by Dryland, Rowe scored with a good first-time shot. Musgrove got right away once and just failed to score, but made up for this by adding a goal for Guy's before the interval.

At half-time the Naval College led by four goals to two, and it seemed that victory was well within reach of the Hospital, but as the second half proceeded the College gradually gained their well-deserved win.

The Guy's halves failed to mark their men adequately, and the wings had many free runs which too often resulted in goals, while Brown did not appear up to his usual form and failed to save several easy shots. The forwards were given some good passes by Archer, but they were stopped by the visitors' backs, who hit the ball hard and to their own men.

The R.N.C. goalie had plenty of work to do in the second half and saved several shots from the Guy's forwards, who for a solid five minutes remained in their opponents' circle. Shots by Musgrove, Rowe, and Bookless were all well saved by the goalie, who cleared to the wing, thus enabling Dryland to score.

The College added three more goals to their score in the second half through good combination and backing up by the halves and forwards.

For Guy's, Jelly played an energetic game at right inner, and gave Dryland some excellent passes in the latter half of the game, as well as having several shots himself.

Team.—H. V. Brown; A. C. Greene, L. C. Thomson; R. C. Hill, R. G. Archer, A. E. Loden; J. W. Dryland, G. O. Jelly, F. L. E. Musgrove, E. B. Rowe, A. S. Bookless.

Fencing

Guy's v. The Oxford Assassins

ON Saturday, February 10th, Guy's entertained the Oxford Assassins to a three-weapon match. The Hospital team lacked the support of J. F. Morris and D. M. Paterson, and so was rather on the weak side, but as a similar state of affairs existed with respect to the Assassins, the two teams were very evenly matched.

In foil, J. R. Miles, J. R. Forbes and R. F. Parfitt each suffered one defeat at the hands of the same Assassin. In epée, G. W. Lawrence was defeated once and R. H. Evans and Parfitt twice. Thus after the first two pools Guy's were leading by two fights. In sabre, Miles and Forbes each lost one fight. P. H. Denton was unfortunate, for, although he carried all his fights to the last hit, he was unable to secure that last hit in any.

The match was still in doubt until the last three fights, and was finally won by Guy's with 13 defeats to 14.

Guy's v. The Royal Horse Guards

ON Saturday, February 24th, Guy's entertained the Royal Horse Guards to a three-weapon match in the Gym. The visitors won the foil by a margin of one fight, D. M. Paterson sustaining one defeat and R. F. Parfitt and J. R. Miles two. In epée, somewhat surprisingly as it is usually the Hospital's weakest weapon, the Guards won only two fights. Paterson and R. H. Evans each lost one fight, while Parfitt was undefeated.

On the first two pools Guy's were, therefore leading by four fights. In sabre, things took a turn for the worse, owing partly to the last-minute scratching of J. F. Morris (Capt.), and the pool was lost by seven defeats to two, Paterson losing one fight and Miles and H-Evans three.

The whole match was, therefore, won by the Royal Horse Guards with 13 defeats to 14, and was thus in doubt right until the last fight.

Squash Rackets

ON February 1st, Guy's played St. Bartholomew's in the Inter-Hospitals Competition and won 4—1. The results were :—

M. A. Partridge beat W. H. Gabb .....3—1
C. A. Boucher lost to B. Thorne .....1—3
A. D. Willis beat W. A. Oliver .....3—0
R. A. P. Hogbin beat R. T. Gabb.....3—0
P. C. Alexander beat G. Blackburn .....3—0

On February 5th, Guy's played St. Mary's in the Inter-Hospitals Competition and won 5—0. The results were :—

M. A. Partridge beat G. Shneerson .....3—1
A. D. Willis beat W. R. May .....3—2
C. A. Boucher beat A. G. Cross .....3—0
R. A. P. Hogbin beat C. G. Cockburn .....3—1
P. C. Alexander beat C. Nicholls .....3—0

On Sunday, February 11th, a match of three a side was arranged by P. C. Alexander against Mr. McDougall's side at Limpsfield, and was won by Guy's 2—1. The results were :—

M. A. Partridge beat R. Carr .....3—1
C. A. Boucher beat R. B. Sterry .....3—2
P. C. Alexander lost to A. B. Carr .....0—3

A Squash Rackets ladder has been put up in the Court. A player may challenge either of the two persons above him and, if successful, will replace the position of that person on the ladder. A challenge must be met within two weeks. At present 12 persons only are on the ladder. No. 12 is open to challenge from anybody in the Hospital.

On Tuesday, February 20th, a match was played against the Oxford and St. George's Jewish Settlement and was won by the Hospital by 5 matches to nil. The results were :—

Partridge beat Shaer : 9—3, 9—1.
Willis beat Barrom : 9—5, 9—2.
Clarkson beat Kaufman : 9—2, 4—9, 9—2.
Alexander beat Kirsch : 10—8, 9—1.
Baker beat Caminer : 5—9, 9—5, 9—3.

Hospital Information, etc.

Notice

Guy's Men in East Anglia

It is proposed to hold a Dinner for Guy's Men in East Anglia at Norwich on April 14th, 1934. Dr. A. J. Cleveland has kindly consented to take the chair.

Would those intending to be present be good enough to inform one of the following :—

A. J. Cleveland, The Close, Norwich.

D. J. P. O'Meara, 88A, Guildhall Street, Bury St. Edmunds.

E. Biddle, 23, Henley Road, Ipswich.

Pass List

ROYAL COLLEGE OF SURGEONS.

L.D.S.

FIRST PROFESSIONAL EXAMINATION.

February, 1934.

PART I.

Dental Mechanics.

R. J. H. Corfe
N. A. Siggers
A. O. Chick
W. H. Groom
T. J. M. Lowry
G. A. B. Hoby

PART II.

Dental Metallurgy.

D. C. Howe
H. M. D. Archibald
D. F. Denniss
F. B. Gamblen
W. Wylde
K. R. D. Porter
B. W. P. Roberts
G. P. L. Taylor
R. F. P. Piper
R. J. Belcher
E. du Toit
S. W. Guilding
F. K. Johnson
J. C. Prosser-French
E. L. Sutton

PART III a.

Anatomy and Physiology.

D. C. Howe
G. M. A. Brown
H. H. Crabbe
W. K. Weighell
N. A. McCormick
G. J. F. Rees
R. G. Siggers
P. H. Crampton
E. Strasburger
P. M. Calder
G. R. Down
M. M. Maclaine Hillier
W. J. R. C. Morgan
H. Richards
R. G. Archer
J. L. Harrington

PART III b.

Dental Anatomy and Physiology.

N. A. Siggers
R. F. P. Piper
D. J. Wigginton
E. A. Beach
N. A. Blay
C. E. Coltman
J. L. Deuchar
W. J. Drummond
D. W. Friendship
J. J. Gaterell
P. Griffin
N. A. Hawkins
T. J. M. Lowry
P. F. B. Gillett
D. E. Ashdown
L. C. Bellsham-Revell
E. B. Briault
W. F. Cooper
H. F. W. Dornhorst
D. P. Fox
M. E. Gascoine
R. E. Goodrich
E. C. Hammond
D. E. Holdway
K. A. Keith
J. L. MacDougall
E. Nelson
F. N. W. Peatfield
R. S. Pook
H. P. L. Rhodes
D. K. Toulson
R. G. Kett
E. L. Moll
J. E. C. Peacock
P. V. Peatfield
V. Rattee
P. G. Sparg

Papers by Guy's Men

E. R. Boland. A simple method of controlling a valvular pneumothorax (Illus.). *Lancet*, 1934, i, 231.

E. Matthews. Dimensional changes in die metals and their significance. *Dental Record*, 1934, liv, 83.

M. Weinbren. Right-sided duodenum inversum, with an account of the development of the duodenum by A. Lee McGregor (Illus.). *Lancet*, 1934, i, 280.

L. J. Witts. Clinical data in asthma. *Lancet*, 1934, i, 275.

R. D. Gillespie. On the alleged dangers of the barbiturates. *Lancet*, 1934, i, 337.

C. S. Hallpike. Hearing aids and hearing tests. *Proc. Roy. Soc. Med.*, 1934, xxvii, 424 (Sect. Otol., 22).

W. M. Mollison. Two cases of Paget's disease with high degree of deafness, greatly helped by "bone-conducting" electrical "aid." *Proc. Roy. Soc. Med.*, 1934, xxvii, 444 (Sect. Otology, 42).

N. Mutch. Proprietary remedies, with special reference to hypnotics. *Brit. Med. Jour.*, 1934, i, 319.

E. H. Richards. Squamous epithelioma of posterior pharyngeal wall treated by combined diathermy and radon seeds. *Proc. Roy. Soc. Med.*, 1934, xxvii, 380 (Sect. Laryngol., 32).

C. Worster-Drought. Ocular manifestations in diseases of the nervous system. *Med. Press and Circ.*, 1934, clxxxviii, 76.

Change of Address

F. G. Holman, 220, Finchley Road, N.W.3. *Hampstead* 6118.

Marriages

FULLER—FERGUSON.—On December 9th, 1933, at the Brighton Register Office, Athelstan Carlton Fuller to Ruth Ferguson, The White House, Patcham, Brighton.

HOLMAN—DUNHILL.—On February 10th, 1934, at All Souls' Church, Hampstead, by the Vicar, the Rev. S. N. L. Ford, B.A., Frank Geoffrey Holman, M.R.C.S. (Eng.), L.R.C.P. (Lond.), younger son of Dr. and Mrs. F. Kay Holman, of 76, Avenue Road, N.W.8, to Mary, only daughter of Mr. and Mrs. Alfred Dunhill, of Pynnacles Lodge, Stanmore, Middlesex.

Death

PARK.—On Sunday, February 11th, 1934, at Staffa, Selsey, Sussex, William Charles Cunningham Park, M.R.C.S. (Eng.), L.R.C.P. (Lond.), late of Hither Green and Lee, London, aged 66.

EDS. { C. G. B. / G. L. B. T.

GUY'S HOSPITAL GAZETTE

A Journal of Medicine, Surgery, Dentistry and Hospital News.

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PASSIM

THE latest number of the *Medical Press and Circular* contains a full discussion of the question of reforming the Medical Association. We advise a careful perusal of the subject matter, which includes papers by authorities in all branches of our profession.

All are agreed that the present system of education is inadequate, but the problem of pruning and grafting is difficult. To uproot the whole regime would cause chaos throughout the medical world, so we must consider how to strike a happy balance between complacent conservatism and radical reform.

The aim of medical education is to produce a good general practitioner. Such a one is a gentleman of ability and tact who can deal competently with all aspects of disease. Can this paragon be produced in the short space of six years? Experience shows that he can, and we do not feel despair of our present system. Most of the criticism is levelled at clinical teaching, but we feel that the fault lies more with the student than the teacher. There are few conditions seen in general practice which cannot be studied in one or other departments of the hospital, for it must be remembered that Guy's is the family doctor of a large area.

With the suggested alterations in the pre-clinical period we agree. The would-be doctor learns much of chemistry, physics and biology, which has no bearing on his subsequent career. Most of the lecturers in these subjects are pure scientists, who have little interest in medicine *per se*, and endeavour to instil a complete knowledge of their particular subject in the short space of a year. We do not advocate abolition of chemistry and physics, but feel sure that the student would take a livelier interest if the clinical applications of the various substances and reactions were stressed.

When he passes his first M.B. the student begins to see a glimmer of the light of practice in the academic darkness. He learns physiology and begins to study the secretions and excretions of the human body. It is said that the teaching of physiology is still too purely scientific, but here at Guy's we have its clinical aspect particularly stressed. Here, too, he is taught to do a blood count, along with the estimation of blood urea and the commoner investigations which will prove of so much value in the wards. No, we cannot complain that the "water-tight compartment" system is too much in evidence here, for recently the ward and laboratory have been brought much closer together.

Many voices protest against the unnecessary detail in anatomy. The medical student has to memorise many facts about human anatomy, many of which appear to him trivial; but when he is confronted with an anatomical problem in surgery he will find that his knowledge is none too deep. Even if he has forgotten the precise relations of the part concerned, a quarter of an hour with Gray will refresh his memory. We cannot see that any anatomy would be better left untaught.

Having passed his second examination, our future general practitioner finds himself in the wards. Instruction here is strange to him; instead of the familiar courses of lectures he finds that the teaching consists of informal talks at the bedside. He is left alone a good deal, and, if he is interested, finds things out for himself—which is the only way to learn. If he now begins to realise that he may have to deal with patients on his own account and gets into the habit of working out problems by himself, he has effected the most important change in the whole curriculum. We feel that most of the faults in his education would disappear if he would adopt this attitude. Too many students accept their senior's diagnosis or treatment without thinking, and one day find themselves without a chief to whom they can turn

for advice. This frame of mind undoubtedly produces the cry of the young practitioner: "If only they had taught us that at the hospital!" The answer is that he could have learnt, if he had but realised that one day he would find himself standing on his own legs.

A point which does strike us, however, is the treatment of chronic disease. The bulk of general practice consists of just such patients as attend O.P.O. Out-Patients. If compulsory attendance here twice a week were arranged for medical ward clerks, they would leave the Hospital with a very fair knowledge of the chronic bronchitic and menopausal difficulty.

In this connection we feel that physiotherapeutic methods are much neglected. The public have a well-founded faith in this rapidly expanding branch of medicine, and too often their request for guidance with regard to massage or electrical treatment falls on sceptical and inexperienced ears.

So much for clinical teaching. We would leave the ordinary ward work as it is, it could be little improved, but much advantage could be taken of the chronic material which, at present, is not forced on the student's eye.

When he has taken the final examination the young doctor is in a position to practise on his own. The sudden burden of responsibility would be much lightened if his first six months were spent under the eye of an experienced practitioner before he is granted a licence to practise by himself. It is not so much the actual treatment of cases that worries; it is the administrative difficulties—how to dispose of cases to infirmaries, how to arrange emergency operations, and the like. The methods are quickly learnt; the necessary experience is, at present, gained in doing locums. We urge very strongly that, on this account, compulsory general practice experience be made part of the doctor's education. Experience of disease can be gained as well in a hospital if he troubles to look for it, and for this no change in the curriculum is necessary, only time.

THE Rugger team must be congratulated and sympathised with at the same time, for their magnificent fight and narrow defeat in their re-played semi-final against St. Mary's. Until the very end it looked as though we would pull through, because the gods still favoured the "old firm," but it was not to be, and what seemed a rather pedantic upholding of the written word of the rules cost us the match. It must be a long time since such an open and skilful game was seen in a Hospital Cup match, and it will probably be a long time before such a high standard of rugger is surpassed. Though in these games everyone wishes the other side to lose rather than the best side to win and though none of the customary vigour was lacking, there was nothing to mar a fine afternoon of sport. Giesen and his side deserve more than praise for the fine show they put up, and no doubt next year they will get their deserts and bring the Cup back to its proper home.

THE Light Department held their annual dance at the Northumberland Rooms, Trafalgar Square, on Saturday, March 3rd. The increasing popularity of this social event is denoted by the fact that all tickets were sold within a very short time of the appearance of the decorative poster in the Colonnade and before notice could be given in the *Gazette*. It is hoped, however, that a larger hall will be obtained in future, so that a greater number may be accommodated.

THE annual match between the Nomads and the Junior Staff is fixed for Wednesday, the 21st March, at 3 p.m. The game is played at Honor Oak Park with an oval ball on the ground where the Hospital play Rugby football. No one should miss the experience of witnessing this interesting annual custom, which is worthy to be ranked with others more widely known, such as the Westminster Pancake, the Dunmow Flitch, and the Floral Dance.

Some Staphylococcal Infections

By L. Forman, Esq., M.D., M.R.C.P.

MORE time is devoted to the treatment of staphylococcal skin lesions, at Out-Patients, than any other skin disease. Their chronicity and marked tendency to relapse taxes the patience of the sufferer and physician, for the patient may be as effectually prevented from earning a living as a severe phthisis or rheumatoid arthritis.

The staphylococcus can be recovered, but with some difficulty, from normal skin. An occasional coccus will be seen in the mouths of the hair follicles, but the discovery of a group of cocci

indicates activity of the organism, with the production in the near future of a clinical lesion.

In practically all cases staphyloccal conditions are primarily follicular. The extent of the eruption, and the chronicity, depends on the type of staphylococcus and on the resistance of the skin. The staphylococcus " normally " present may become more virulent under certain conditions, *e.g.*, increased heat and moisture of a region of the skin, or a virulent strain may be accidentally acquired.

The effective barrier to the staphylococcus is the skin. It is localised at first to the mouth of the follicle in the great majority of cases and never goes further. If the resistance is inadequate the infection invades the wall of the follicle to reach the surrounding corneum and subcutaneous tissue, and even the blood stream, with the production of a septicæmia which has often a fatal termination. When the skin is able to prevent deeper penetration, but not to prevent active multiplications of the organism, the chronic disease sycosis results.

Everyone has had the superficial staphylococcal infection—the small, often multiple, red follicular papule with a tiny bead of pus at the opening of the hair follicle. It may arise spontaneously owing to constitutional factors, but it must be admitted that shaving with infected brushes and razors may be responsible. A good example is the so-called Bockhart's impetigo, produced around a boil as a result of boracic fomentations. The skin under the foment is macerated, the protective hairy layer is damaged, and the moisture favours the growth of organisms provided in the discharge from the boil. This type of staphylococcal lesion is seen commonly on the face, scalp and limbs. Each follicular lesion is capable of spreading down the follicle, producing a perifollicular inflammation and abscess or boil.

In cachectic children and adults the reaction is not the normal acute one, and indolent subcutaneous abscesses, which may continue discharging for some time, result. This condition is seen frequently on the scalp in infants. With correct treatment the acute superficial staphylococcal follicular lesions subside.

The tendency to re-occur is great, for immunity to the staphylococcus is hardly acquired and very easily lost. Follicular pustules appear again in crops and become more resistant to treatment, in children around the eyelashes, and in male adults on the beard regions and limbs in which the hairs are coarse and stiff recurrences become more severe and widespread. There is no dividing line between chronic recurrent folliculitis and sycosis.

Sycotics form the nucleus of most skin clinics, or at least of the "old patients." They are treated for years with often disappointing results, and, like sufferers of many other chronic medical diseases, travel from hospital to hospital seeking cure. The onset is often insidious—a few small pustules, an occasional boil, after a period of months or years producing the full-fledged disease. Many of the patients show a chronic blepharitis and an anterior rhinitis. Questioning will, in a certain proportion, elicit the information that the eyes have been sore since childhood, and that there has been a chronic pyogenic infection of the vestibule of the nose with fissures or behind the ear, commencing after an attack of acute streptococcal impetigo.

When the hair on the face of the male becomes coarse and stiff after puberty the follicles become infected by the staphylococci in the discharges from the nose and ears. The skin of the upper lip or the chin and cheeks is red, numerous small follicular pustules are seen. Lakes of pus are present in the epidermis between the follicles, and, as Sabauraud has shown, even where such collections are not seen, muco-abscesses are disseminated in the epidermis. This feature he shows is characteristic of sycosis, the abscesses invading the layers of the epidermis without any formation of a reactionary barrier. In severe cases the whole of the beard region is involved, with the eyebrows, eye-lashes, the scalp hair, commencing at the temples and spreading over the whole of the scalp, the axillæ, public regions and the limbs.

In the variety known as lupia sycosis there is evidence of a more satisfactory response of the skin to this infection. Both cheeks are usually attacked, but there is a dense inflammatory infiltrate in the dermis with subsequent scarring and destruction of the hair follicles. Around the scarred skin devoid of pustules there is a ring of infiltrated skin with firm, inflamed follicular pustules.

A similar clinical picture is seen in the chronic staphylococcal infection of the nape of the neck. The predisposing cause is the rubbing of the edge of the collar, particularly in fat-necked individuals.

The other varieties of staphylococcal infections are involvment of the sweat glands in women, hydradenitis, and superficial infective dermatitis. The former is an infection of the large apocrine glands situated in the axillæ. They have the histological characters of both sweat and sebaceous glands, and when infected produce indolent indurations, a little tender, later producing red swellings of the skin. They may resolve or break down, discharging a creamy pus. Each node takes from three to four weeks to run its course, and

subsequent lesions are the rule. Similar changes are sometimes seen around the anus. Excessive perspiration, lack of cleanliness and the use of depilatories are exciting causes.

With severe sycosis, ill-defined, slightly red patches are seen on the trunk. The staphylococcus can be recovered by culture and they respond fairly readily to local remedies. These patches of infective dermatitis probably represent reactions of a highly sensitive skin to infection.

The staphylococcus is peculiar in that it does not produce demonstrable immune bodies in the serum. Although there is only one phase of the mechanism of immunity, some authorities have maintained that the cells of the epidermis are the most important structures in inhibiting the growth of the organism. However, it has been recently shown that there is some increase in the titre of staphylococcal antitoxin in the serum.

The use of a staphylococcal vaccine is a popular therapeutic measure, giving, however, variable results. Some have maintained the superiority of intradermal injections over the usual subcutaneous method. The theory is that the cells activated are those of the dermis and epidermis, which are those naturally in contact with the infecting staphylococcus. In the Skin Department here this method has been in use for some years, and we believe in its value.

The patients are usually very sensitive to the vaccine, but, as the injections are continued, lose their reactions. Another advantage of the intradermal injection is the ease of regulating the dose by noting the amount of erythema produced around the site of injection. The first injection is 25 millions, and this is increased to 1,000 millions provided the local reaction is not excessive, not more than .1 cc. being injected into any spot.

Recently the use of staphylococcal exotin has been advocated in chronic staphylococcal infections, and Connor and McKie found that there was evidence of increase of anti-hæmolytic titre of the serum much greater than that obtained by the use of ordinary vaccine. Correspondingly clinical improvement was obtained in patients suffering from sycosis. However, other measures to raise the immunity of the patient are of much more importance.

Sycosis usually occurs in the hospital class of patient living under poor hygienic conditions and working indoors. When a case is seen early, every effort should be made to get the patient away for a prolonged rest under the most favourable surroundings. It is not too much to say that sanatorium treatment is as justifiable and will give as good results as in cases of tuberculosis. The diet should be generous, containing much milk and animal fats with addition of radiostoleum. It has become almost traditional to limit carbohydrates in chronic staphylococcal infections, and clinically, it seems justifiable. Recently when a large number of these cases were investigated in America, the proportion of individuals with a lower carbohydrate tolerance, as shown by the glucose tolerance curve, was not abnormal.

The skin is, however, an important depot for carbohydrate, and also the sweat is found to contain more sugar after the injection of carbohydrate-rich meals. It is conceivable that abnormalities of carbohydrate metabolism may occur in the skin, favouring the growth of staphylococci, without any reflection on the circulating blood sugar. Further, as Barber has pointed out, the type of secretion from the sebaceous glands may change after the injection of carbohydrate and fats and lose its normal property of inhibiting bacterial growth.

General ultra-violet light baths and light applied judiciously to the affected skin are useful and rational measures. The number of local applications is so great that it indicates that not one of them is to be relied upon exclusively. The simple superficial follicular lesions will respond to a weak iodine solution frequently applied, followed when dry by powdering.

Ichthyol in solution up to 8 per cent. in water is very valuable in all the varieties mentioned above. In some cases the effect is very striking, particularly for the eyelid infection. Sulphur in lotions or in a paste with ammoniated mercury is very often used with benefit.

The great proportion of cases have X-rays administered at some stage. Fractional doses of X-rays produce improvement in all cases of staphylococcal folliculitis. The reason for improvement is not clear. The activity of the sebaceous glands is diminished, and in patients with greasy, seborrhœic skins this is probably important. It is certain that X-rays in these cases cannot affect the staphylococci and inhibit multiplication.

If the hair is removed from the beard region in sycosis there is immediate improvement. Manual removal of the hair is a painful and tedious process, but many patients, realising the gain, willingly undertake it. A quicker and more permanent, but painful, method is to remove the hairs with the diathermy needle.

X-ray removal is painless. To destroy the hair follicles, however, is almost impossible without producing some atrophy and scarring of the skin, with the subsequent risk of epithelioma. To epilate the hair with X-rays is an admission of failure, and is often embarked upon without a fair trial of other measures by an impatient sufferer.

J. M. H. C.

Une affaire du cœur

The Bacteriological Aspect of Gingivitis

A Paper read before the Dental Society, Guy's Hospital, on 25th February, 1934, by
C. S. Henderson, Esq., L.D.S., R.C.S.

MR. CHAIRMAN and GENTLEMEN,—Although one paper has already been read before you this session on Gingivitis, I feel sure you will agree that the importance of this subject is sufficient excuse for my bringing it before you again.

I have approached it from the purely bacteriological aspect and want to show the valuable information that can be gathered from the routine examination of gum smears not only from the point of view of diagnosis, but also as an aid to and control of treatment.

Furthermore, from experience I find one is not only able to judge more accurately the amount of treatment a case will require, but also give a more certain prognosis, which prevents a case dragging on indefinitely and, as so often happens, the patient getting fed up and the operator discouraged. Many of the failures and re-occurrences seen in the treatment of gingivitis are due either to incomplete diagnosis or cessation of treatment before the condition is under control.

I do not want you to assume that the routine examination of gum smears provides a solution to the problem of the ætological factors associated with all gum inflammations, but I do feel the bacteriological element is so often sadly neglected and that the microscope should now have its proper place in every dental surgeon's equipment.

In this paper I am dealing with the conditions that are primary bacterial in origin, and am leaving aside the question of the secondary infection of established gum pockets.

The transitional stage between gingivitis and parodontal disease is necessarily somewhat arbitrary, so that many of the slides I shall show are from conditions already complicated by alveolar bone involvement.

Even if a case is to be designated as pyorrhœa alveolaris on the first evidence of bone destruction, radiographically confusion still exists, because infection is established within the bone some time before it can be recognised in X-ray pictures. At any rate, my remarks are confined to those cases which would be recognised clinically as gingivitis.

THE PREPARATION AND STAINING OF GUM SMEARS

A cotton-wool roll is placed in the buccal sulcus to hold away the lip or cheek. The surfaces of the pocket under examination are then dried with pellets of cotton-wool. Pressure is applied to the pocket to express any food debris which is wiped away. The tip of a scaler, a fine platinum loop, or any other convenient instrument is then introduced into the pocket and material collected from the depth. Slight bleeding invariably occurs, but this in no way interferes with the subsequent interpretation of the film.

Incidentally, preliminary sterilisation of the surfaces of the pocket and adjacent teeth is not necessary, unless cultures are to be made at the same time.

The material collected is now emulsified on a clean glass slide to which has previously been added a drop of tap water, and spread out to make a thin, even film. The film is allowed to dry, and cleared by adding 1 per cent. acetic acid for 10 minutes. This last stage removes mucus, which would otherwise give a heavily stained background to the film. The acetic acid is poured off and the slide is carefully dried between sheets of blotting paper, and then fixed by passing through a bunsen flame three times.

Three films should be prepared for a detailed examination of a gum pocket and stained with carbol fuchsin, Gram's and Leishman's stains. 10 per cent. carbol fuchsin left on for three minutes gives a very clear and well-defined picture; used in higher concentrations, the stain distorts and produces marked irregularities in the staining of the bacteria.

To use, the stain is poured on the slide and allowed to remain for three minutes. It is then washed off with tap water and the slide carefully dried between sheets of blotting paper. In order to prevent the stain from invading the whole of the slide it may be limited by drawing lines on each side of the smear with a grease pencil. This is especially useful for preventing contamination of the finger if the films are being stained in the dental surgery.

Alternatively, the smears may be prepared and stained on a coverslip and then mounted on slides with Canada Balsam for microscopic examination. Carbol fuchsin is more useful for observing the fuso-spirochætal contents of a smear, whilst Gram's stain differentiates the coccal contents.

Indian ink preparations are also useful for observing spirochætes. The material is collected from the gum pocket and emulsified on a slide with a drop of Indian ink previously diluted with

an equal quantity of tap water. The film is allowed to dry and examined with the condenser light cut down. The spirochætes are unstained and stand out against the dark background. Fontana's stain also shows up spirochætes well, the organism being stained black.

Although the blood cells in the films are stained by any of the methods already mentioned, for detailed study a selective cell stain such as Leishman's or Jenner's must be used. I do not think it is necessary for me to describe in detail the technique for using these compound stains, except to say as regards Leishman that the best results with gum smears seem to be achieved by immersing the slide in the stain for 24 hours.

Before showing you examples of film preparations from the various types of gingival conditions, I would like to refresh your memories for a moment as to the various types of organisms encountered in examining gum smears.

THE COCCAL CONTENTS

Gram + and gram — cocci, arrange singly as diplococci or tetrads, in clumps or short chains, are constantly seen scattered over the surface of an epithelial cell.

A point to remember is that, although an organism may show a typical arrangement in a smear, cultures alone, in most cases, are necessary to establish its identity.

Incidentally, desquamation and the subsequent removal of the epithelial cells by swallowing is one of the methods by which the bacterial contents of the mouth is kept within bounds.

BACILLARY CONTENTS

Again, both gram + and gram — bacilli, of which the gram — bacillus fusiformis concerns us most It is one of the organisms that can be recognised immediately in smears, and its typical appearance as seen in smears from an early case of Vincent's infection is a long, curved bacillus tapering at both ends and showing an unstained band in its centre. Various other morphological forms are met with, especially in smears from chronic gingival conditions, but I will say more about them later on.

SPIROCHÆTES

Several types of spirochætes are met with, but as their culturing is difficult, their morphology has not been worked out and any division is necessarily arbitrary.

Nevertheless, several constant types are constantly seen in gum smears. Leptothrix buccalis isolated, its morphology and cultural reactions described in detail by your President in 1922, is seen as gram + threads varying in length and thickness. It does not appear to be present in mouths free from calculus, which leads to the supposition that it has some bearing on tartar production. This is supported by the fact that the organism has a definite precipitating action when cultured in fluid media containing calcium, and also calculus was produced experimentally by inserting cultures of the organism under gum-flaps in the mouths of cats which normally are free from tartar.

Amœbæ indicative of stagnation are frequently to be seen. At one time they were thought to be the specific organism of pyorrhœa, but this view has long since been abandoned.

Epithelial cells are constantly seen, and also what are termed salivary corpuscles, which are wandering leucocytes.

The white cell content of a film is of particular value as it is indicative of the state of the infection. The nucleus and cell protoplasm of an active cell are well defined, and stain clearly with a selective cell stain.

The nucleus of a degenerate cell is badly defined and stains irregularly, whilst the protoplasm is also ill-defined.

A slide teeming with well-stained white cells indicates an active infection, whilst the presence of a few degenerate cells indicates a latent infection. Polymorphonuclear predominate, although lymphocytes are quite often seen. Cells of bone-marrow origin or nucleated red blood cells indicate rapid bone destruction.

Cultures from gingival conditions are usually mixed. The streptococcus is regarded as the infective element, and any one of the three types may be cultured, although in acute and sometimes in chronic conditions pure streptococcal cultures may be obtained.

I want first to deal with the acute forms of gingivitis due to bacterial activity.

Firstly, Vincent's angina, acute ulcerative gingivitis. In smears from an early case of this condition only Vincent's spirochætes and fusiform bacilli are seen, with perhaps an occasional pus cell. The rest of the mouth flora seems to be completely inhibited.

Incidentally, in making smears the material should be collected from the raw surface when the membrane has been stripped off, or if no such place can be found a little of the membrane should be removed. The old controversy as to whether these organisms are distinct species or that the fusiform is but a stage in the life-cycle of the spirochæte has recently been re-introduced. The weight of evidence at the moment points to

the former view. In the early stage the spirochætes seem to dominate the field, but as the condition becomes more established greater numbers of bacilli become apparent. After the first few days the other mouth organisms begin to re-appear. The spirochætes seem to be always of one type, and the bacilli exhibit their characteristic appearance.

The experimental production of the disease by inoculating material collected from a case into the mouths of healthy animals has had negative results. The fact remains, however, that the constant appearance of the organisms in smear from this condition has become of certain diagnostic value.

Smears taken as treatment progresses will show a gradual reduction in the numbers of the organisms and should not be concluded until a scattered few remain. This actually may take several months, and it is questionable whether, after an attack of Vincent's angina, the organisms completely disappear. It has been stated that these organisms are to be found in all normal mouths. This, of course, all depends on the criterion of normality adopted, but of the few normal mouths I have examined I have failed to detect them. Certainly spirochætes are to be found in smears where any pocketing has occurred, but I find it difficult to persuade myself that many are Vincent's spirochætes. Furthermore, I do not think fusiform bacilli are to be found in normal mouths, but again appear as soon as pocketing occurs.

The next condition is acute streptococcal gingivitis. Here one does not find a typical smear. A general increase in the coccal and fuso-spirochætal contents is seen—many active and degenerate pus cells, leptothrix strands and other bacillary forms. The condition is often associated with an acute glossitis. I well remember the first case I came across. The patient was a female of about 30, and had an acute non-ulcerative condition of the gums and an acute glossitis to such an advanced stage that she was hardly able to keep her tongue within her mouth. Smears from the gums showed no evidence of Vincent's infection, whilst cultures gave a pure growth of hæmolytic streptococcus, except for a few colonies of staph. albus.

Several times have I seen slides from cases diagnosed clinically as Vincent's before ulceration has occurred, but with no evidence of a definite fuso-spirochætal contents. These cases are, I feel, definite streptococcal infections.

This case defied treatment with the usual application for Vincent's infection for nearly a week, but eventually subsided after the application of strong tincture of iodine.

Whether a hæmolytic streptococcus is always recovered from this condition I am unable to say, nor have I been able to trace many references to it.

Acute catarrhal gingivitis is commonly associated with an acute infection of the upper respiratory tract. A quite diagnostic smear may be obtained in that there is a marked fuso-spirochætal increase, but generally no pus cells in the early stages. It is, I think, a general spirochætal increase, as smears show several types of spirochætes. Other organisms are also seen.

Thrush is a disease primary of infants, and is due to a yeast (minilia albanicans), which can be seen in direct smear.

Looking through the literature on this subject I have come across many references to gonococcal gingivitis, especially in Continental literature, and so thought it was worth mentioning. The gonococcus is gram-negative, and in smears from lesions is characteristically seen as a diplococcus with the adjacent sides flattened, inside a pus cell.

The two chronic conditions I want to describe are chronic Vincent's infection and chronic fuso-spirochætal disease of the gums. In both conditions smears show an overwhelming fuso-spirochætal content. In the first condition smears resemble an acute Vincent's of some standing. The spirochætes, however, appear to stain more deeply, and often have a beaded appearance, whilst the bacilli fusiformis is thicker and more cigar-like in shape. Occasionally the fusiform bacilli appear to predominate over the spirochætes.

In fuso-spirochætal disease of the gums an increase in the other types of mouth spirochætes is seen, and although in some cases several varieties may be seen, often only one type is apparent. Whether it is correct to differentiate these two conditions on the question of the spirochætal content of the smears is a moot point, but I think I have seen sufficient cases that support such a division. The bacillus fusiformis seldom exhibits its characteristic appearance, and segmental staining is common.

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A Cruise to the West Coast of France

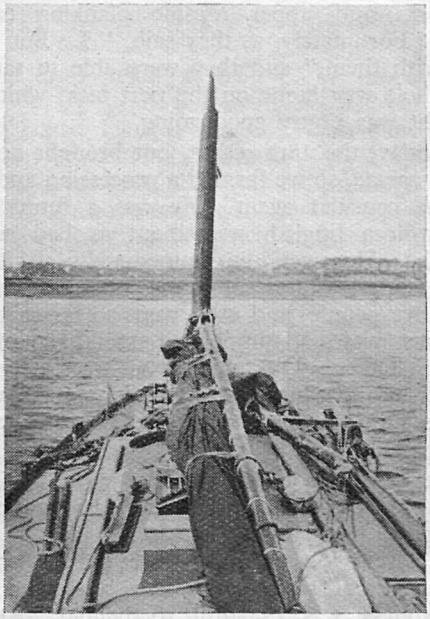
(Concluded)

NEXT day, July 15th, we awoke to find a glorious morning: hot sun glaring down out of a cloudless sky, and not a breath of wind. The latter did not worry us much as this is a frequent happening in these parts at this time of year, and it is very rare not to get a good breeze before the day is out. We spent a leisurely morning ashore, and, after clearing the customs, got away to a light W.N.W. breeze at 1.30 p.m., bound for Isle Groix. As the day drew on the breeze freshened and veered, so that we had to reef the main a little and start making long tacks towards the Island. During this day we had typical summer Bay weather; black squalls would come away from windward, bringing rain and wind, then pass on leaving an almost cloudless sky.

We had a look at Port Tudy in Isle Groix, but as there were apparently extensive harbour reconstructions going on and the place was packed with tunny boats, we did not feel like going in and decided to push across to Port Louis. The wind headed us on the way over, and we had to beat in through the Passage du Sud. As we were nearing the Citadel the wind died on us altogether, so we regretfully started the engine to take us over the last half-mile. This was the first time that the cover had been off the engine since leaving Plymouth. We finally anchored in Port Louis close to the Citadel at 9.45 p.m., making a distance of 25 miles made good from Belle Isle.

We sat up late that night discussing our plans for the return journey, and we turned in dreaming of glorious sails to come.

We were still sleeping peacefully at 8.30 a.m. next morning, when we were awakened by a tremendous crash, followed by the sound of splintering wood, the ship at the same time giving a great lurch to starboard. The skipper was sleeping in the port fo'c'stle cot and was literally thrown on to the floor. He scrambled out on deck when he had recovered from the shock, and was met by an eloquent flow of language from the mate, the gist of which was: "Well, the swines have dismasted us, anyhow," Indeed a sorry sight met the eyes. Against the port shoulder of *Zona* lay the bows of a motor cargo ship, which had only too obviously rammed us "good and proper" in broad daylight. Two of the gesticulating crew proceeded to board us, and it really was a good sight to see a sun-tanned Frenchman go pale under the withering tongue of the skipper. His grammar is bad and his vocabulary small, but on this occasion at any rate his words got home.



After the Accident

Zona was an absolute wreck; mast broken off about six feet above the deck and lying over the side; bowsprit had followed suit, and two topside planks stove in forward of the chain-plates; the whole of the fore deck was lifted off the deck beams and knees. How this ship came to ram us in broad daylight and in a recognised anchorage will always remain a mystery—their explanation of defective steering gear was totally inadequate, as their ship answered perfectly to the helm as she backed away from us. She was a 135-ton gravel boat fully loaded, so that the impact was terrific, and it is a wonder we did not all go to the bottom.

After clearing up some of the mess and lashing the mast and bowsprit alongside we got the engine going and motored slowly up the river to a place called Keroman, where the Frenchmen told us there was a yard. There was a yard there, but it did not look as though they had ever seen a yacht in their lives. However, there was nothing else for it, so we moored up alongside a direlict tunny boat and awaited the arrival of the insurance agents and surveyors. After we had cleared up

the wreckage as much as possible, the agents arrived, but, to our dismay, they said that as it was Saturday nothing could be done till Monday. It seemed that we were not the only ones in trouble, for next door to us was a large tunny boat from Isle Groix. It appeared that they had been run into by a steamer 200 miles out in the Bay, having had the whole of their port quarter bulwarks and upper topside planking carried away. Fortunately, as they said, " Le Bon Dieu was with them," and they were able to sail her the whole way home on the port tack, which we thought was pretty good going.

Monday, the 18th, came, but brought no sign of the agents, so we formed a procession and beat up the consular agent. He was a funny little man whose English was about as bad as our French. However, he immediately started to raise Hades, calling all sorts of bluff on the insurance people, and even went so far as to say that we were all important members of the Foreign Office. Our chief delay was due to the fact that the shipbuilder would not start on repairs until the agreement had been signed by the agents.

Next day we had the battle royal with the insurance agents, and a more bad-tempered, dishonest and grubby little lot of men I have never met. Their one delight was to argue until all were black and blue, and their childishness was dreadful to behold. At any rate by six o'clock that evening we had drawn up our own specification of repairs with full details, and at the same time got the agreement signed that all these repairs were to be done at the company's expense. The builder, of course, stuck it on as much as he could, and as far as we can see made a very good thing out of it all. Besides the agreement for repairs, here was the rub: we demanded and obtained £40 in cash to pay for our return fares to England pending the re-conditioning of the boat.

After this somewhat exhausting day we went and had a good meal ashore, and on the morrow set off for England, where we eventually arrived after a series of adventures which would make another story.

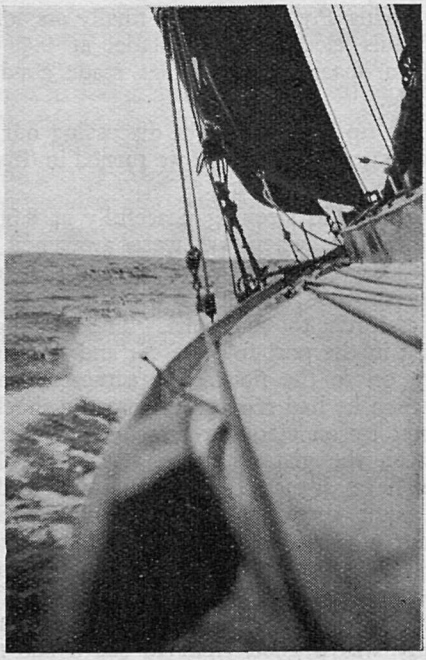
On July 28th, the crew was once more gathered together with an addition in the form of the skipper's younger brother. We arrived at L'Orient early on the afternoon of the 29th, and went immediately to Keroman, where we found the ship looking more or less herself again. All repairs were completed, although how badly we were to find out later. The deck paint was still wet, which made things difficult, but by darkness we had all the gear aboard, the mast rigged, the standing rigging set up, and all ready for sea except for the stores.

Although the boat had been re-chartered from August 1st, the owner and charterers had agreed that if we got the ship home by August 6th all would be well; so we had a stiffish job in front of us, because, although given good weather there was plenty of time, anything like bad weather on that coast would almost certainly render it impossible to do it in the time.

We spent the next day laying in stores, and by the evening were anchored again at Port Louis, awaiting a telegram from the owner as to where we were to sail the ship. However, none arrived, and we sent him a wire telling that we would make for Lymington in the Solent.

At 5 a.m. on the 31st we were awakened by the alarum. The sky was looking dirty and overcast in the S.W. and the barometer had fallen during the last day or two, but was now steady at 29.62, so we decided to make a start. At 6.30 we got the anchor and were away under all plain sail to a fresh S.W. breeze, and tacked out through the Passage du Sud. At 7.45 we streamed the log, rolled four turns in the main, and laid a course W. by N. to leave Isle Groix to the south'ard.

By 9.20 we had made good eight miles, and the breeze had freshened considerably. Several *orages* or squalls had come and gone, but one of



Could only lay N.½W. close hauled

them arrived which seemed never to go. It was blowing a strong breeze by now, and with the barometer also falling we altered course to N.W. to get under the lee of the Gleenan Isles and make for Bemodet and see how we got on. At 10.0 the wind veered so that we could only lay N.½W. close-hauled, and we started making half-hourly tacks to windward. Two hours later Penfret Island bore west about four miles, and it became necessary to pump ship. Somehow or other we had made a lot of water, and already it was over the floor-boards. The pump, alas ! had gone on strike, so we decided to push on to Benodet. It was blowing fairly hard by now, so two more turns were rolled down in the main and jibs changed. She had made much more water than before the accident, so we were forced to the conclusion that the repairs had been badly done. This did not augur well for our passage home, as it looked as if pumping operations were going to form a large part of our daily work. As the afternoon drew on the wind eased up, and we finally had to get the engine going to get us into Benodet, where we anchored at 6.45 p.m., 30 miles made good on the return journey and all to windward.

As soon as the anchor was down we started to clear the pump. This entailed baling out most of the water with buckets and then shifting about half a ton of ballast. We found that the cause of the obstruction was a kink in the piping against which grit from the bilge was jamming. The offending piece of piping was cut out and some wide rubber piping substituted. After a quick supper we turned in dead beat.

We left Benodet at 8 a.m. next morning and found a fresh W.N.W. breeze outside. Sailing out past the Bass du Chenal, Kareck Gries, and the Roche Hélon, we really felt life was worth living again. The previous day the steward and mate had been regrettably ill, but by now they had found their sea-legs again. At mid-day we came about on to the port tack, as by now we could clear Penmarch by a good margin, and altered course to N.N.W. for La Vieille. It was by now a glorious day with a fine long swell coming out of the west as soon as we drew clear of the land.

At 2.30 p.m. the Penmarch lighthouses were in line about five miles off, but by 4 o'clock the water was again over the floor-boards—Hell !—not to mention the fact that, in spite of our labours the night before the pump immediately gave up the ghost. It seemed to become full of dirt and grit as soon as we got it going. There was only one place for that to be coming from—the bilge, so we decided to heave to, repeat last night's performance and fit a filter. We ought, of course, to have seen to this before, but somehow or other these little things that really matter often, too often, get forgotten. We hove to on the starboard tack; *Zona* lay to beautifully, but even so there was a big swell running with a certain amount of sea on top of it, so that pulling up floor-boards and shifting ballast was no fun. We again bailed out the ship with buckets, and fitted a filter which the mate had very cunningly made out of a cigarette tin.

We let draw again at 5.50 p.m., Penmarch bearing S.E. by E. about four miles off. On the port tack, close hauled, we could only now lay N.½E., so we decided to make for Audierne roadstead. This was necessary as, although we could probably have caught the last of the flood through the Raz de Sein, we could not have carried it right through to the Chenal de Four. It is a nasty district to be knocking about in a small boat at night with very little wind, and the tides run much too strongly to be dealt with with our small engine.

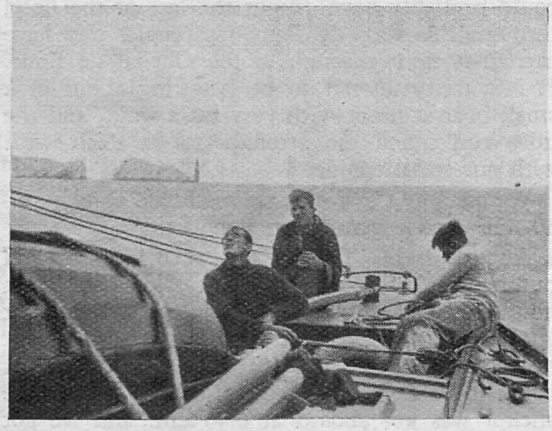
We anchored in Audierne roadstead at 11 p.m., 30 miles made good from Benodet.

August 2nd. Turned out at 5.15 a.m. and pumped the ship dry in about a quarter of an hour. The pump was working as it should at last. The Sardine boats were just putting out as we got up, and assured us that there really was going to be fine weather for a day or two. The anchor was got aboard at 6.40 a.m., and we got the engine going straight away as there was very little wind and it was essential that we should miss no more tides through the Ras. We got through the Ras at slack water and carried the flood right up past Le Four Tower, a distance of 23 miles. The engine had to be used on and off as the wind was still very light. It certainly is an amazing part of the coast, and passing through the Four Channel the tide ran at a colossal speed, in fact so fast that with the light breeze and no engine our chief anxiety was to avoid the buoys as we swept towards them.

By half-past four in the afternoon we cleared the Channel, pumped ship, streamed the log, and set the reaching foresail and balloon jib. We still kept the engine going as we wanted to clear the land before the tide turned. Round about here we passed the only other English yacht that we had seen; she was flying the Cambridge Cruising Club burgee and was making for the Chenal de Four.

At 5.15 p.m. the log read 4.4 miles and took our departure for Start Point on the Devon coast. The winds were kind to us after that and the engine was shut off, having done very good work for a total of nine hours. The wind was

westerly, veering to the N.W., and as by 10 o'clock there were distinct signs of it freshening, the ballooner was handed, but we hung on to the reaching foresail. During that night we had many squalls, having to take in the foresail in one of them, but there was nothing else to worry us, except for a rather depressing rain which came with the squalls. We were a little anxious at one time as the barometer fell a tenth in four hours, and the wind veered a bit more so that we wondered whether we were going to get a blow from the north. We decided to keep on our course as all the time we were drawing away from the coast.

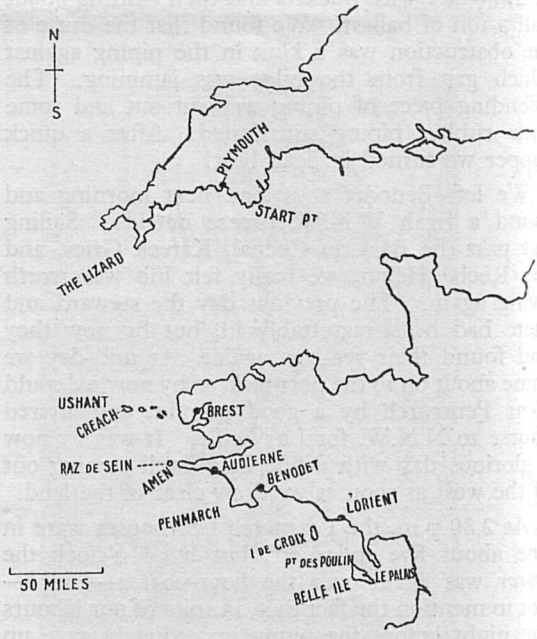


Just caught the flood through the needles

Next morning we hove to and had a magnificent breakfast of porridge and scrambled eggs. After this the sun came out and, with a glorious beam breeze, we made good progress towards the Devon coast. The ship was still making a lot of water and needed pumping out every four or five hours. Land was sighted at 11 o'clock and at first was thought to be the Start, but it later turned out to be the high land behind Plymouth, so that our course had not been very well adhered to. This was chiefly due to the conditions of the night before, when at times steering had been very difficult. However, it was a mistake in the right direction, as it is much better to make a landfall west of the Start than in the middle of West Bay. As we closed the land the sea became calmer, and at 5.15 p.m. the Start bore due north about 10 miles. The breeze was lighter by now, so the ballooner was set again, and then began one of the most glorious sails I have ever had. Our course was E. by S. now, making to clear Portland by about 10 miles. The wind veered to the north as the evening drew on, and with a grand soldier's wind we logged a steady six knots all the way across West Bay. The ballooner had to be handed during the night to prevent our losing it, althought the sea was dead calm, with a clear sky and a wonderful moon lording over everything.

Portland bore due north at 1.15 a.m., so that we had taken eight hours dead for the 48 miles from the Start. After this the wind drew more to the west again and became lighter, and after about eight in the morning we spent most of our time shifting the spinnaker from one tack to the other in an effort to catch the last of the flood through the Needles. We just managed to do this and passed them at 11.30 a.m.; 40 hours from Ushant to the Needles was pretty good going, though it meant that at times we had to press the boat more than was comfortable. However, we finally anchored at Lymington in the early afternoon of August the 4th, two days inside our allowed time.

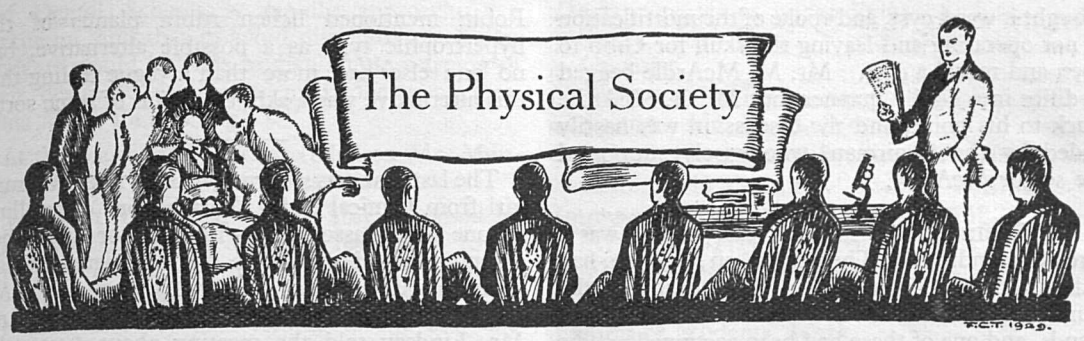
The owner and next charterer came aboard during the afternoon, and *Zona* was hauled out of the water. We could then see why she was leaking like a sieve. The carpenters had done their job all right, but the caulkers had apparently never seen a caulking mallet for years, as the only material stopping up the seams was putty.



Map of Cruise

Zona is now a sound boat again and has found a new home in Devon waters, where she was built 20 years ago.

W. G. G.



A MEETING of the Physical Society was held in the Spit on March 1st. Mr. Ogle was in the Chair and cases of clinical interest were shown. There was a good attendance, and each case was well presented and fully discussed.

Mr. WILLIAMS showed a case of a small girl with a hard swelling involving the lower end of the femur. He said that pain in the first place and later rapid loss of weight had brought the patient up to Guy's—to be treated as a rheumatic for some weeks until the swelling was noticed. A diagnosis of sarcoma was then made. The X-Ray Department was more optimistic, and suggested chronic sepsis or a gumma. Mr. Reading expounded on the fallacies of X-rays and said the lump was certainly malignant, and either an osteogenic sarcoma or the rarer Ewing's tumour. He favoured the latter, though he thought the rarity weighed against this. Mr. Lea was proud to say that he had seen a case of Ewing's tumour. Mr. Ferguson voted for an osteogenic sarcoma. He felt that little could be done, and advised deep X-rays for the relief of pain. Mr. Jacoby was more daring and wanted to look inside, but Mr. Reading pointed out the dangers of this.

The next case, demonstrated by Mr. M. J. MCARDLE, was a man of 35 who had a variety of symptoms and signs of muscular weakness—general tiredness, difficulty in swallowing, dyspnœa with much talking, diplopia, ptosis and muscular wasting. No stone was left unturned in his examination, and posterior cortical cataracts and small testicles were found. Mr. McArdle carefully reviewed the findings, and pointed out that the case could not be put in any definite category. It presented symptoms of myasthenia gravis with many physical signs of myotonia atrophica. Mr. Drummond supported the latter diagnosis and suggested a sugar tolerance test. Dr. Conybeare was intrigued by the lack of myotonia and the marked wasting. He thought the latter ruled out myasthenia. Mr. Clarkson wanted some treatment done, and Mr. McArdle suggested placebos in summing up rather in favour of myotonia atrophica.

Mr. BLEASDEN told the meeting about a woman of 35 who had surprised Mr. Gibberd when she was having a bimanual examination for a Bartholin's cyst by presenting a stony hard abdomen on one side only. This proved to be due to a large tumour, apparently spleen, reaching to the pubes and encroaching on the right iliac fossa. She had no symptoms of this, and further examination showed little else. She had a hæmoglobin of 87 and correspondingly diminished red cells with no abnormal whites. Dr. Conybeare was not convinced that it was a spleen, and suggested a carcinoma of the ovary. Mr. Baker was not in favour of this. Mr. Balean for some reason mentioned pregnancy, but seemed uncertain where to put the fœtus. Mr. M. J. McArdle voiced the general opinion of the meeting by suggesting splenic anæmia and Mr. B. McArdle agreed with him.

A case of cranial tumour in a boy of seven was next shown by Mr. BOOKLESS. He described the symptoms of headache and vomiting, and the tendency to stagger forwards. Among the signs were inequality of the pupils, with no reaction to accommodation, a static tremor of both arms and bilateral extensors. Dr. Symonds had placed the lesion in the anterior part of the middle lobe of the cerebellum and involving the cerebro-spinal tract. Mr. Bookless, who had obviously gone into the case very thoroughly, wondered whether the tumour might be nearer the red nucleus. He thought that a medulloblastoma was the most likely type. Mr. M. J. McArdle supported Dr. Symonds's localisation, and said that the tumour was probably a medulloblastoma which would be best treated by deep X-rays. Mr. B. McArdle

thought it was a cyst, and spoke of the mortification of not operating and leaving the skull for Gibb to open and reveal a cyst. Mr. M. McArdle begged to differ in a kindly manner, but Mr. B. McArdle stuck to his point, and the discussion was hastily ended by the Chairman, who wisely supported the senior McArdle.

Mr. ROBIN showed the next case, which was a rare skin condition. The patient, an Austrian, had a diffuse nobbly change in his skin, mostly on the trunk and forehead. He had a few enlarged glands, and one of these had been sectioned. The report on this had been masterly in its ambiguity, and suggested that it could not be a Hodgkin's gland, but might be perhaps. The patient had had X-ray treatment, but was now in hospital again because of the intense irritation Mr. Robin suggested that this might be due to protein break up as the result of the X-ray treatment. Mr. Bookless had seen the patient in Skin Out-Patients, and had been most impressed by Dr. Barber's quick diagnosis of Hodgkin's disease. Mr. M. McArdle thought it was typically cutaneous Hodgkin's, and he recommended a high protein diet and a soothing ointment for the irritation. Mr. Robin mentioned lichen rubra planus of the hypertrophic type as a possible alternative, but no one else had more than a vague feeling that this alternative was a skin condition of some sort.

The last case was shown by Mr. SPINK. A small girl from Clinical had a short history of swelling of one leg unassociated with pain or any other symptoms, and on whom all investigations had been negative. Mr. Spink assured Mr. M. McArdle that the obstruction was lymphatic, and Mr. Lindsey told the meeting about a case he had seen with variable swelling of one leg. This patient had two brothers who had similar limb disorders. Mr. Drummond gave the condition a name—acquired lymphangiectatic hypertrophy—and said that lymphatic cysts were formed which had a tendency to a malignant change of the angiosarcomatous type. He advised the removal of a lateral strip of fascia with a preliminary trial of Elastoplast. Mr. Bookless had felt a lump in the right iliac fossa, and Mr. Robin had heard a soft systolic murmur. Mr. Spink politely disagreed, and summed up in favour of expectant treatment.

Dental Society Annual Dinner

THAT past and present students of Guy's Hospital Dental School regard the Clinical Meeting as a valuable feature of our annual re-union was very clearly demonstrated on Saturday, 10th March. Both morning and afternoon sessions were crowded beyond capacity with enthusiasts anxious to benefit by the series of interesting operations and demonstrations by various well-known members of the teaching staff and exhibitions of work undertaken by the students. The success of the "At Home" was equalled only by that of the dinner which followed in the evening.

At the dinner, which was held at the New Criterion Restaurant, Piccadilly, a record attendance of 434 was registered to bear testimony of the *esprit de corps* of Guy's Dental School and to give a fitting reception to the popular and distinguished President of the Society, Mr. Arthur Bulleid. The Students' Society was honoured by the presence of Sir Norman Bennett as their principal guest, and many other gentlemen of eminence and distinction, including the following: Wing-Commander L. Colman, Mr. F. Coleman, Mr. H. L. Eason, Mr. N. L. Eckhoff, Dr. E. W. Fish, Surgeon-Captain E. E. Fletcher, R.N., Mr. K. J. Gilchrist, Colonel J. P. Helliwell, Colonel C. H. Howkins, Mr. E. C. Hughes, Professor T. B. Johnston, Mr. H. H. Rew, Mr. A. E. Rowlett, Rev. E. Royle, Mr. W. G. Senior, Mr. H. Stobie, Mr. F. P. Whitbread, Professor W. Wright, and representatives of Dental Societies of other hospitals.

The members of the teaching staff were present in full force.

Following an excellent dinner and the loyal toasts, which were proposed by the President and honoured enthusiastically, Sir Norman Bennett proposed the toast of Guy's Hospital Dental School in very pleasing terms. He referred to the need for close co-operation to devise a plan for post-graduate instruction in London, and expressed the hope that the Metropolis may soon come to be regarded as the world's centre in this important matter.

Professor Johnston responded to this toast in his usual inimitable manner, relating amusing and interesting events in connection with the hospital and also sounding a warning note to the effect that the number of students at Guy's Medical

and Dental Schools is rapidly approaching a maximum, and that to avoid disappointment past students would be wise to give ample warning of their desire to send sons or nephews to their Alma Mater for training.

At this stage the President called on Mr. Montague Hopson to address the gathering.

The toast for our guests was ably proposed by Mr. H. C. Malleson, and was responded to by Mr. A. F. Rowlett. Mr. F. S. Warner proposed the toast of the President in pleasing terms. The President in reply paid tribute to the zeal and ability of Mr. K. L. Scott, the Hon. Secretary. Mr. K. L. Scott in turn emphasised the assistance he had had from the President and thanked the Hon. Treasurer, Mr. H. Bradley-Watson; the Dental Correspondent, Mr. K. E. J. Fletcher; and members of the committee for their help in connection with the dinner arrangements.

The delightful evening was concluded by an excellent entertainment by Mr. Ronald Frankau.

K. E. J. F.

The programme of the Clinical Meeting was as follows :—

The Removal of Third Molars under General Anæsthesia. Mr. W. Kelsey Fry.

The Administration of N_2O and O with the McKesson Apparatus : (1) By an Intra-tracheal Catheter; (2) By a Nasal Attachment. Mr. A. D. Marston.

Mandibular Injections. Mr. S. C. Holms.

Operations on the Maxillary Sinus by the Sublabial Route under Local Anæsthesia. Mr. T. B. Layton.

Operations for the Removal of Dental Cysts. Mr. E. B. Dowsett.

Operation for the Removal of a Dental Cyst. Mr. H. C. Malleson.

Operation for the Removal of a Dental Cyst. Mr. G. B. Pritchard.

Immediate Dentures. Mr. F. A. Walker.

Face Masks. Mr. M. A. Rushton.

Exhibit of Students' Work.

Operation for the Removal of a Dental Cyst under Local Anæsthesia. Mr. H. L. Messenger.

Porcelain Jacket Crowns. Mr. W. E. Herbert.

Copper Amalgam as a Root Filling. Bacteriology of Gum Infection. Mr. C. S. Henderson.

Some Aspects of the Silicate Problem. Dr. E. Matthews.

Filoro Gold-filling Technique. Mr. J. A. C. Hunter.

Orthodontic Cases shown by Mr. F. Bocquet Bull and Mr. R. E. Rix.

Dental Operations under Evipan Sodium Anæsthesia. Mr. F. S. Warner and Mr. K. J. Gilchrist.

X-Rays showing Representative Pathological Conditions. Mr. H. M. Worth.

Prosthetic Cases shown by Mr. F. A. Walker.

Skeleton Gold Dentures. Mr. E. A. Lloyd.

Impressions under Compression for Full Dentures. Mr. G. G. T. Tregarthen.

Impression and Design for Partial Dentures. Mr. D. S. Clogg.

Exhibit of Students' Work.

Clinical Cases shown by Mr. E. C. Hughes, Senior Surgeon; Mr. T. B. Layton, Aural and Throat Surgeon; Mr. E. B. Dowsett, Mr. H. C. Malleson and Mr. G. B. Pritchard, Dental Surgeons.

Difficult Extractions. Mr. F. N. Doubleday.

Histological Specimens. Mr. G. B. Pritchard.

Minor Operations under Local Anæsthesia. Mr. W. Kelsey Fry.

Chairside Bacteriology. Mr. A. Bulleid.

Further Applications of the Brillat Porcelain Inlay Technique. Mr. K. Hooper.

Technique for Gold Casting. Mr. W. E. Herbert and Mr. A. R. F. Thompson.

Exhibit of Work of Tooth Carving Classes. Student Demonstrators.

Orthodontic Cases shown by Mr. F. Bocquet Bull and Mr. R. Cutler.

Guy's Hospital Gazette

(ESTABLISHED 1872)

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The Editor will, at all times, be glad to consider articles or sketches, provided that they are accompanied by the writer's name and address, not necessarily for publication. The payment that the GAZETTE can offer is merely nominal. Authors who desire reprints of their papers should make their own arrangements with the printers when they return their proofs. All contributions to be addressed to *The Editor*, who does not accept responsibility for the views expressed by contributors.

IT is, we believe, without precedent that Guy's Debating Society should be represented by a selected team to speak at another college. This, however, is what took place on March 1st, and we have been deputed to give some account of the event.

Bedford College for Women had some weeks beforehand sent us a challenge to debate one of a selection of subjects. The committee accordingly made its choice, accepted the challenge, and booked a new fixture. Thus it came about that on the date before-mentioned a small group of argumentative Guy's-men made their way, not without certain misgivings, to Regent's Park.

The meeting was held at 5.30, or, more accurately, as soon as the college rowing enthusiasts had returned from cheering their crew at the Regent's Park "bumps." Some of us expressed regret that we could not ourselves have witnessed the boating, but, in view of the dainty tea and terribly edifying conversation to which we were entertained, this wish cannot have been thought particularly grateful.

After extending us a very charming welcome, "Madam Chairman" opened the proceedings by calling upon Miss Waldron to propose that, "The way of progress lies in the elimination of the unfit."

The speaker might well have confounded the opposition by her unblushing idealism. Indeed, we must for our part confess that her interpretation of the motion came as rather a surprise. She stated, first, her conception of progress as a striving toward perfection in the individual. This, she contended, served to promote bodily and spiritual advancement. Unfitness was a relative standard varying directly in its definition with the progress of society.

Humanity progressed only as it became aware of those individual qualities which made its members "fit" or "unfit." It was the function to-day of rational eugenics to discourage the relatively rapid multiplication of biologically inferior classes, so that our modern standard of fitness might be preserved to form the basis of further upward development.

We had no time to digest these beautiful thoughts before Mr. Hill, who led the opposition, gave us a taste of the medico's much-boasted scepticism. This is all very fine, quoth he, but who is to agree upon the attributes that shall condemn a man to elimination and how is the elimination to be effected? The motion, thought Mr. Hill, fell to the ground on the definition of elimination alone, and who was to say with all honesty and faith that the human race did and would progress anyhow?

Miss BUSSEL, who rose to support the first speaker, did not bother to tackle the opposition at all. Instead, she lectured us, we thought somewhat unnecessarily, on the elimination of disease and the evolution of health treatment. Her remarks were embellished with an amplitude of historical data, very little of which we find it possible to recall.

Mr. CARFEW now reinforced the opposition. His admonitions were addressed quite as much to the "false" arguments of his colleague as to those of the ladies across the table. He declared that there could be no doubt about the *possibility* of eliminating anyone you chose. Given the requisite authority (and a lethal weapon) he could do it himself. "The thing can be done," he insisted. The question was, what would it achieve?

It would achieve two things. It would decrease the ratio of unfits to fits. It would also save the State the expense of maintaining defectives. But it would *not* achieve progress. The proportion of high intelligence to insanity was no measure of progress; it had nothing to do with it. A civilisation was judged by its aristocrats.

A lively discussion followed, in which various new points arose, but after the final summing up the motion was defeated by 55 votes to 42.

We have to thank our hostesses for a very interesting evening.

Correspondence

Guy's Hospital Ladies' Association

To the Editor of the GAZETTE

SIR,—May I through your paper sincerely thank the nurses and students, and all those who so kindly helped us at the concert which was held at Londonderry House (by kind permission of the Marquis and Marchioness of Londonderry) on Tuesday afternoon, March 6th. The total sum realised was £300 (three hundred), a most gratifying result.

Yours, etc.,

ANNE H. V. RYFFEL,
Concert Secretary.

Ashcroft Cottage,
Chipstead, Surrey.

Go to Russia

THE U.S.S.R. has had more books written about it and has, during the last few years, been the centre of more discussion and controversy than any other part of the world.

This is not to be wondered at, for there, in that vast territory, comprising one-sixth of the habitable globe and including scores of different races among its inhabitants, life is being organised on radically different lines from anything hitherto attempted in history.

One hundred and sixty million people cannot be entirely wrong. And whatever we may think of Soviet methods, it cannot be denied that the Russians are building themselves a new world; taking into account, moreover, the difficulties of their struggle—a *brave* new world.

If we examine recent developments in Russia from our own specialist viewpoint we shall find that enormous strides have been made in the last few years in medical service and health facilities. For instance, during the last five years the network of hospitals, infirmaries, children's clinics and crêches has enormously expanded. The number of hospital beds has increased by 100,000, and the number of students studying the faculty of medicine is now no less than 50,000. Modern medical research is proceeding apace, and during the coming year six new clinics are being opened in the All-Union Institute of Medical Research in Leningrad.

It is hoped during next Summer Vacation to organise a group of students from this hospital to visit the Soviet Union. They are to go with the object of studying contemporary developments in medicine and public health work, and will visit hospitals, prophylactoria, crêches, etc., where the authorities will conduct them.

The trip will last three weeks, including a sea trip of 4½ days each way, and should prove an excellent and highly interesting holiday.

Any Guy's man who would like to take part in this venture might communicate with the writer of these lines through the editor and he will be pleased to supply further information.

X.Y.Z.

Guy's Hospital, S.E.1.

Sport

Rugby

Guy's v. Plymouth Albion

AT Plymouth, on Saturday, February 24th, Guy's were defeated by a penalty goal and 3 tries (12 points) to a penalty goal and 2 tries (9 points).

Owing to J. van A. Steytler and R. J. Drummond missing the train, Guy's played for the first 15 minutes with only 13 men; during this period the Albion scored a penalty goal and a try. Fortunately, C. E. M. de Gruchy and C. S. Darke travelled down with the side, and after the second reverse they turned out to complete the team. This meant re-arranging the back division, and Giesen went to fly-half and Johnson moved to left centre to allow de Gruchy to come in on the wing. Considering that the home side were at full strength, Guy's did very well to run them so close.

Plymouth started off with a strong forward rush which carried play well into Guy's territory. When Sharp attempted to clear, the kick was charged down by Gormley, who re-gathered and went on to score a try in the corner, which Brigstocke just failed to convert.

Subsequent play continued in the Albion's favour, but mistakes in handling and their inability to force home an advantage at the critical moment spoilt several promising movements.

However, after 20 minutes' play Guy's were penalised for a scrum infringement, and Brigstocke kicked a splendid goal from near the half-way line. With their team complete, Guy's showed to greater advantage, and the game brightened up

considerably. Plymouth needed all their skill in defence to check the Hospital back division, who carried out several splendid bouts of passing without piercing a sound defence.

Just before half-time Guy's reduced the lead when the ball came out to Wright, who made one of his characteristic runs and crossed for a splendid try in the corner, which was not converted.

After the interval Plymouth made a determined rush, which was easily checked, and it was not long before Guy's got into their stride and took up the attack. Playing with skill and pace which had not been revealed hitherto, they demonstrated that the Albion would have to fight hard if they were to retain the lead. On several occasions the Hospital back division swept down the field with amazing rapidity, and their passing was perfect. Fortunately for the home side, Gormley and Webber were particularly sound, and seldom allowed anyone to pass. Eventually Guy's were awarded a penalty, and Hogbin repeated Brigstocke's effort by kicking a magnificent goal from the half-way line.

Stimulated by this success, Guy's went all out to take the lead and, with Bowles sending out a good service from both the scrums and the loose, there was plenty of exciting play, and it was only a fine defence that prevented Guy's from scoring.

Two splendid runs by Webber on the right wing carried him to the Hospital 25, but on each occasion he was brought down. Both sides attacked in turn, but Guy's found Rowe a stumbling-block at full-back.

Five minutes from time Parker dribbled along the right wing and, with Hayes in support, the ball was sent along to Webber, who crossed in the corner. A minute or two later, Plymouth increased their lead when, following splendid work by Gormley and Parker, Edwards secured possession and crossed near the posts, but Brigstocke missed the goal-points.

Just before no-side, A. R. Clarke broke through and scored an unconverted try for Guy's.

Team.—E. C. Sharp; C. G. Wright, P. C. Alexander, A. G. Johnson, C. E. M. de Gruchy; J. E. Giesen (Capt.), V. H. Bowles; M. R. Kark, A. G. Heberlein, H. H. Crabb, I. G. Robin, C. S. Darke, R. A. P. Hogbin, T. Morgan, A. R. Clarke.

Inter-Hospital Cup—Semi-Final
Guy's v. St. Mary's

ON Tuesday, February 27th, Guy's met St. Mary's at Richmond in the Inter-Hospitals Cup, and after one of the most exciting games seen in the competition for several years neither side were able to score, and they will have to meet again to decide who is to enter the Final

Fortunately, both teams were able to field their strongest fifteens, and a drawn game was a fair reflex of a clean, hard-fought game, which was full of thrills from beginning to end.

St. Mary's had first advantage of a keen wind blowing almost straight down the field, and were soon in Guy's 25 following well-directed kicks to touch. Their heavy forwards played with rare dash and enthusiasm, and tried repeatedly to storm their way past the Guy's defence. However, Guy's stuck to their task splendidly, and their defence was magnificent. Time after time Cockburn, at the base of the scrum, sent out a perfect service to the St. Mary's back division, and Jones, Owen-Smith and Butterworth made many attempts to get through, only to be met by some relentless tackling by Giesen, Alexander and Steytler.

On one occasion Owen-Smith broke through cleverly and, after giving a perfect dummy, passed to Butterworth, who simply had to walk the ball over the line, but, fortunately for Guy's, he knocked on and a certain try went begging.

Fighting against a strong breeze, Guy's appeared content to hold their opponents during the first half, but there were two or three occasions when they went very near to crossing their opponents' line, and one splendid effort by Giesen was frustrated by the combined forces of Owen-Smith, Roberts and Jones. However, a little later a great movement by Drummond, Clarke, Giesen and Johnson, enabled Johnson, after a determined run, to carry play within five yards of the line before he was pushed into touch.

Several scrums followed, and eventually Cockburn cleared, but just before half-time Clarke gained possession in his own half and, after deceiving the opposition, raced up to the full-back. Unfortunately, the move was so unexpected that Johnson, who was well covered, was the only player up with him, and, following a tackle, the ball went loose and a great opportunity went astray.

Upon changing ends, Guy's, with the wind in their favour, were a totally different side. After repelling a storming raid by the St. Mary's forwards, Guy's settled down and immediately drove their opponents back to their 25. From now onwards it was a case of Guy's attack pitted against the St. Mary's defence; they tried everything they knew to break through, and they would have succeeded, but luck was certainly not with them. Time after time the threes were in action, only to find the final movement break down by relentless tackling or a pass going astray at the

critical moment. Guy's varied their attack considerably and, having failed in orthodox passing movements which were always anticipated, they endeavoured by clever cross-kicks to get the ball to Wright, but Hartley, who had been moved from fly-half to cover him, gave very little away.

Giesen and Steytler made several fine kicks across to the right wing, and on one occasion Alexander, who had marked Owen-Smith exceedingly well, broke through and punted ahead. Unfortunately, the ball bounced awkwardly, and Steytler knocked on before Wright touched down for what might have been a good try.

Near the end Giesen, who was about the best back on the field, managed to elude the close attentions paid to him, and, running like a deer, he sailed up to the full-back, before passing to Johnson, who was unopposed. The latter actually touched down, but the pass previously was slightly forward, and quite rightly Tommy Vile, who handled the game admirably, ordered a five-yards' scrum. Although St. Mary's relieved, Guy's attacked again and, after Hogbin had failed to kick a penalty goal by inches, Giesen narrowly missed dropping a goal.

It was a magnificent game and an exciting finish. The defence of Guy's in the first half was superb; the forwards played their part to perfection and rallied round the weak spots immediately. As the game progressed they obtained such a mastery over their heavier opponents that they elected to have scrums instead of a line-out.

Team.—M. J. Lindsey; C. G. Wright, P. C. Alexander, J. E. Giesen (Capt.), A. G. Johnson; J. van A. Steytler, V. H. Bowles; M. R. Kark, A. G. Heberlein, H. H. Crabb, T. Morgan, R. A. P. Hogbin, A. R. Clarke.

Guy's v. Rosslyn Park

OWING to injuries and illness, Guy's were compelled to field many reserves for their return fixture against Rosslyn Park, and at Richmond, on Saturday, March 3rd, they were well beaten by 4 placed goals and 2 tries (26 points) to a placed goal (5 points).

Only Wright and Giesen of the regular back division were able to turn out, and Leeming took Robin's place in the pack.

The first half was evenly contested, but, with the wind in their favour, the Park failed to take advantage of the many opportunities that came their way. They had a very fine pack, who were always ready to take advantage of the slightest slip, but over-eagerness spoilt several promising raids.

With the exception of Giesen, the Hospital defence was woefully weak, and most of the backs were content to run alongside their opponent without attempting to tackle. As the game progressed, the tackling, with the exception of Wright, became more feeble than ever, and it revealed the Hospital's weakness in first-class reserves.

One of the most interesting features of a dull game was the duel between C. G. Wright and H. D. Haddon-Cave; they tackled each other relentlessly, but neither was allowed to make much ground, and Wright suffered from lack of opportunities.

It was unfortunate for Guy's that Drummond was injured twice in the first half, as this reduced the effectiveness of the pack considerably.

Harrison, at fly-half, was in remarkable form for the home side, and continually found a gap in the Hospital defence.

Amongst the forwards, J. A. Cooper was about the best in the field; he played with any amount of enthusiasm, and was a prominent figure in every attack initiated. For Guy's, Hogbin was a tower of strength, and was ably supported by Morgan, Clarke, Kark and Leeming, but they were worn down before the end and tries for the opposition came in quick succession.

In the first half, J. A. Cooper crossed after a snappy bout of passing and Woodhouse converted, but near the interval Guy's broke away on the right and, following a scrum in Rosslyn Park's 25, Hogbin picked up and, after shaking off several tackles, strolled over the line for a try, to which he added the extra goal points.

For several minutes after the interval Guy's pressed strongly, but eventually they were driven back and tries were scored by Birdwood, Church, Lusty, Lauder and Gladstone, Woodhouse converting two and Lusty another.

Wright and Giesen made desperate attempts to get through, but they were ill-supported, and the Park had no difficulty in keeping their line intact.

Team.—C. G. Sharpe; R. M. de Grégory, J. E. Giesen, G. J. Rees, C. G. Wright; J. McD. Stewart, D. I. Chapman; M. R. Kark, A. G. Heberlein, H. H. Crabb, D. M. Leeming, R. J. Drummond, T. Morgan, R. A. P. Hogbin, A. R. Clarke.

Association

Inter-Hospital Cup—Semi-Final

Guy's v. Bart's

THIS match was played in fine weather at Honor Oak Park on Wednesday, February 28th, and Guy's hopes of the Cup for this season were rudely shattered after extra time by 4 goals to 1.

The game started in sensational fashion, James breaking away on the right and centreing to Harvey,

who deflected the ball into the net. One goal up in some 15 seconds looked very hopeful, and for a time Guy's forwards did everything but score. The superior headwork of the Bart's defence began to assert itself, however, and after about 20 minutes play veered right round and careless marking by the defence led to the Bart's outside left equalising with a grand shot. Guy's attack now began to fade out and play was mainly in our half, but half-time came with no further score.

Bart.'s were now playing beautiful football, Guy's being completely over-run, and only some desperate first-time tackling by Priestley and a marvellous display of goalkeeping by Stoneham prevented Bart.'s running up a big score. Full time came, however, with a score of one all, and it was decided to play 15 minutes each way extra time, and it was now that the superior stamina of Bart.'s became markedly conspicuous, and they put in three goals without any reply, so running out worthy winners by four goals to one.

In this match Lee was brought into the forwards in an effort to eradicate a definite weakness in the centre, and, although not as successful as was hoped, this was a definite improvement on the old forward line. The team as a whole were listless and inclined to give up if an opponent got to the ball first.

Result.—1—4. Lost.

Team.—F. J. R. Stoneham; R. L. V. Henderson, D. A. Priestley; G. M. Johnson, S. E. Osborne, J. H. Thomson; R. W. Harvey, H. A. Lee, G. James, G. G. G. Rees, H. Jones-Lewis.

Swimming

THE Annual General Meeting was held on Thursday, March 1st, and the usual officers were elected. C. A. Styer and J. A. Smit continue as captain and secretary respectively.

Last year we were knocked out of the water polo Cup by Bart.'s, the eventual winners, and we came third in the Inter-Hospitals Swimming Contest. However, with several promising new members we have a very good chance of winning both Cups this season.

Since the fixture list has been strengthened and Lavington Street Baths (five minutes from the Hospital) have been engaged for every Friday evening, it is hoped that all people interested will get in touch with the Club as soon as possible.

A. M. McCALL,
Asst. Hon. Sec.

Hospital Information, etc.

Pass List

BRITISH COLLEGE OF OBSTETRICIANS AND GYNÆCOLOGISTS.
D.C.O.G.
H. Richards.

SOCIETY OF APOTHECARIES OF LONDON.
FINAL EXAMINATION.
February, 1934.

Surgery.

P. C. Alexander — *H. D. Robinson

Medicine.

J. L. Freer — A. E. Ginn
*D. P. King — *G. Wilson

Forensic Medicine.

J. L. Freer — A. E. Ginn
*D. P. King

Midwifery.

J. L. Freer.

* Have now completed the examination.

UNIVERSITY OF OXFORD.
DOCTOR OF MEDICINE.
R. E. Howard.
MASTER OF ARTS.
R. E. Havard.

Papers by Guy's Men

Ernest Matthews. Some experiments on dental retention. *Brit. Dent. Jour.*, 1934, lvi, 234.

—— Physical aspects of retention. *Brit. Dent. Jour.*, 1934, lvi, 237.

H. St. John Rumsey. Cleft palate speech. *Brit. Dent. Jour.*, 1934, lvi, 239.

D. Denny-Brown and E. Graeme. On the Physiology of micturition. *Brain*, 1933, lvi, 149.

A. E. Hurst. Treatment of post-encephalitic Parkinsonism. *Lancet*, 1934, i, 499.

R. Jarman and A. L. Abell. Evipan as an intravenous anæsthetic. *Lancet*, 1934, i, 510.

Arthur F. Hurst. Some disorders of the œsophagus. *J.A.M.A.*, 1934, cii, 582.

Robert Bradlaw. An inheritance of dwarfed or absent upper lateral incisors in three generations. *Dental Record*, 1934, liv, 113.

Change of Address

Eric Sander, 2, Warwick Street, Worthing. *Worthing* 894.

Appointment

M. Shaw, Consulting Ophthalmic Surgeon to the London County Council, and Ophthalmic Surgeon to St. Mary's Hospital for Women and Children.

Death

SHELSWELL.—On March 6th, 1934, suddenly, Oscar Berridge Shelswell, O.B.E., M.R.C.S., L.R.C.P. 1881, at Forest Green, Dorking, aged 76 years.

EDS. { C. G. B. / G. L. B. T.

GUY'S HOSPITAL GAZETTE

A Journal of Medicine, Surgery, Dentistry and Hospital News.

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PASSIM

THERE has been a considerable amount of correspondence in the daily press of late concerning the management of a hospital ward. Two aspects in particular have been singled out for criticism: firstly, the treatment meted out to patients by nurses, and secondly, the effect on the other patients of one of their number dying in their midst with all the attendant evils of screens and mourning relatives. As regards the first, we can only say that those of us who have spent a few days and nights in the wards never cease to be amazed at the cheerful way with which the nurses here handle the most trying of patients under what must be at times most exasperating conditions.

The second is really quite a problem. There is no question but that when a patient dies in a ward, especially if the process is a slow and painful one, the other patients are deeply affected. There are two ways of dealing with this. Either each patient could be segregated from his neighbours by a partition (the objection to which, apart from expense, is the consequent loss of some of the general cheerfulness and companionship of a public ward), or dying patients could be removed to one section of the ward or to a special room alongside the ward. We can imagine nothing more unpleasant than undertaking the task of breaking the news to a patient that he must be moved to the death chamber or to the death corner, as the room or section of the ward would be regarded. Apart from converting the Hospital into a private nursing home, we are unable to think of any alteration which would benefit the patients in general or materially reduce the anguish of the relatives of the dying patient.

ABOUT this time of year it is customary to include an account in " Passim " of the effects of Spring on Hospital life. As so many of the Residents are tasting the first joys of sunlight elsewhere, and those who have left Guy's can have no interest in the plight of the remainder, we feel that rhapsodising is out of place. Suffice it that re-decorations and spring-cleaning are the order of the day, and that blanketed patients are once more admitted to the Park under Dr. Sol.

HOUSE Officers have received an intimation that two beds and a cot are to be reserved in Job Ward for the use of patients from the Medical block who need surgical treatment, and also for such out-patients as require temporary admission following operations. Previously, medical cases have undergone the rigours of a long journey in the subway and have not had the benefit of a ward where surgical after-treatment is routine. The new arrangement fulfils a long-felt want.

WE understand that extensions from the Front Lodge national telephone are shortly to be installed in the College, on the Theatre floors and at various other points throughout the Hospital. This will save the busy practitioner an annoying wait while the Porter rings round for the take-in house officer, and decrease the fatigue and shoe-leather bill of the latter.

WE reluctantly announce the retirement of Mr. C. G. Baker from our editorial chair. The trenchant " Passims " which flowed from his able

pen, the resource with which he tracked down elusive copy, and, most of all, his cheerful and whimsical personality will be hard to replace. We wish him luck in his future wanderings and hope that, as an " old Guy's man," his inimitable style will once more appear in these pages.

We bid Mr. D. P. King, our new sub-editor, a hearty welcome.

CONGRATULATIONS to the following on their appointment as Clinicals :—

Mr. R. A. Andrews.
Mr. H. Cameron.
Mr. W. T. J. Fowler.
Mr. W. H. Hamilton.
Mr. F. A. Nicolai.
Mr. P. A. Wilkinson.

Some Useful Drugs and How to Give Them

A Clinical Lecture delivered at Guy's Hospital by A. F. Hurst, Esq., M.D.

GENTLEMEN,—In the course of years one learns to rely on a comparatively small number of drugs, and one finds that the official dose is frequently either too large or too small. One also realises how much of the value of a drug may depend upon when and in what form it is given. I propose to-day to give you some of the fruits of my experience of drug treatment.

Hydrogen peroxide and hydrochloric acid in achlorhydria.—Achloshydria is a common sequel of chronic gastritis and is present in about 15 per cent. of all patients suffering from abdominal symptoms as well as in about 4 per cent. of perfectly healthy people. In about 75 per cent. of cases the power of secreting acid can be restored by dieting, removal of septic foci from the mouth and throat, and lavage of the stomach when fasting in the morning with dilute hydrogen peroxide ($\frac{1}{2}$ ounce to the pint). The hydrogen peroxide acts as a mild antiseptic and dislodges the mucus adhering to the mucous membrane. The treatment is repeated daily until the washings are clear. In many cases a fortnight is enough to restore the secretory activity of the stomach, but in some cases the patient has to continue with the treatment himself for several weeks.

Since I began using hydrogen peroxide lavage for gastritis eight years ago only about one-quarter of the patients to whom I should formerly have given hydrochloric acid now require this drug. It should never be used except as a temporary measure until a second test-meal after a course of lavage has shown that achlorhydria is still present, as it is obviously infinitely more satisfactory for a patient to provide his own acid than to have to take it from a bottle. When the gastritis is so severe that all the acid-secreting cells are destroyed and when the achlorhydria is due to an inborn error of secretion, as it is in the rare cases of constitutional and familial achylia gastrica, hydrochloric acid should be given. The usual dose is quite inadequate; one or two drachms of the dilute acid (B.P.) should be given three times a day. When one drachm is mixed with five ounces of water it is only slightly weaker than natural gastric juice. Thus diluted, with the addition of the juice and pulp of an orange and sugar, it makes quite a pleasant beverage, which should be taken before breakfast and with lunch and dinner for the rest of the patient's life.

Alkalis in ulcer.—Whatever the exact pathogenesis of gastric and duodenal ulcers may be, there is no doubt that the acidity of the gastric juice plays an important part in their development. It is therefore natural that neutralisation of the gastric contents should hasten healing. The most useful alkali is milk, which neutralises an equal bulk of gastric juice containing 0.3 per cent. HCl. If five ounces are given every hour no free acid is likely to appear in the stomach before 3 p.m. Hourly feeds of milk or milky food should therefore form the basis of all treatment. Sodium citrate is an excellent alkali, and has the advantage of preventing the clotting of milk; two grains should be added to each ounce. The bowels can be kept regular by giving a drachm of emulsion of magnesia, the most powerful of all alkalis, after some of the feeds, and prepared chalk ($\frac{1}{2}$ to 1 drachm) can be given between feeds during the later part of the day, when free acid is most likely to be present. Sodium bicarbonate should never be used in the treatment of ulcer, as any excess over the quantity required to neutralise the acid in the stomach at the moment stimulates the secretion of more acid; it is, in fact, the most

powerful of all stimulants of gastric secretion with the exception of histamine. Magnesia has a similar, but less marked, action, so that not more than a drachm of the emulsion should be given at a time. Bismuth oxycarbonate does not act as an alkali at all, as it remains unaltered in 0.3 per cent. HCl at the body temperature. It appears, however, to hasten healing in chronic cases through its mechanical action; one drachm should be given an hour before the first feed of the day.

An interesting series of experiments on the neutralising power of the various drugs used in the treatment of ulcer is described by Freezer, Gibson and Matthews in the *Guy's Hospital Reports* for January, 1928.

Alkalosis.—The use of alkalis in the way I have described needs careful watching. Though for some unknown reason it rarely gives rise to unpleasant symptoms in hospital, it frequently causes alkalosis in private practice. I have found no way of preventing this, the tribasic phosphates of calcium and magnesia, which were at one time thought to be quite safe, being, in fact, no safer than other alkalis. I am, however, inclined to think that the soluble alkalis are more likely to cause alkalosis than the insoluble ones like chalk. When a patient under treatment for ulcer becomes irritable, refuses his feeds and complains of headache, alkalosis and not boredom is the probable cause. Then nausea and vomiting occur, and in severe cases there may be drowsiness and twitching, coma and convulsions. At the same time there is a rapid rise in blood urea, which may reach five or more times the normal figure. There must, I think, have been a good many fatal cases, in which death has been ascribed to uræmia developing as an independent condition, the doctor in charge being unaware of the fact that alkalis can give rise to symptoms of this kind.

Atropine and olive oil in ulcer.—Atropine sulphate should be given before two or three of the meals and last thing at night, as it has a strong inhibitory action on the secretion of acid. The initial dose should be grains 1/200 in a drachm of water; an additional 10 minims are added every day until the mouth becomes unpleasantly dry or accommodation is paralysed. The maximum dose varies greatly in different individuals, some being able to take four times as much as others.

Olive oil has a similar action to atropine and is a concentrated food. A tablespoonful should be given before three of the feeds. Most patients take it very well, nausea being much more often caused by alkalosis than by oil.

Charcoal in intestinal flatulence.—It is often said that the adsorptive action of charcoal disappears when it is wet, and that it cannot, therefore, absorb either gas or toxins in the alimentary tract. This is, however, not true in practice. Charcoal absorbs gas from the intestines and quickly relieves the pain caused by gaseous distension in many forms of diarrhœa; the immediate relief of severe colic during an attack of bacillary dysentery I had in Salonica in 1916 confirmed my belief in its great value. It also renders the stools odourless. For this reason it should be taken regularly by every patient with a colostomy. A tablespoonful of pure powdered charcoal mixed with water, milk or arrowroot two or three times a day should be given. The expensive Fraudin's charcoal offers no special advantage, but Dr. Mutch has drawn attention to the exceptional adsorptive power of Merck's charcoal compared with those usually employed.

Neo-Protosil packing in proctitis.—Having been much struck by the good effects obtained in chronic ethmoiditis by packing the nose with strips of gauze soaked in 10 per cent. neo-protosil, as first recommended by Heseltine, of Chicago, it occurred to me that the same treatment might be useful for the not uncommon cases of hæmorrhagic and ulcerative proctitis, in which the rectum is alone involved from the onset, or in which the proctitis remains unhealed for weeks or months after recovery from a more widespread ulcerative colitis. After cleaning the mucous membrane with wet swabs, woollen plugs soaked in 10 per cent. neo-protosil are introduced through a long proctoscope, the entire cavity of the rectum being filled in this way. The patient has generally no difficulty in retaining them for several minutes, and, if possible, they should be kept *in situ* for half an hour or an hour. The treatment should be repeated daily at first, then successively on alternate days, twice and once a week. Though progress is generally slow, it is more rapid than with any other treatment I have used for this exceedingly chronic condition.

Non-surgical drainage of the bile channels by Epsom salts and olive oil.—In 1917, Meltzer found that when magnesium sulphate is introduced into the duodenum it leads to contraction of the gall-bladder and biliary ducts with relaxation of the sphincter of the common bile duct (Oddi's sphincter) so that bile flows into the duodenum. Two years later a practical application of this discovery was introduced by Lyon, of Philadelphia, who showed that a specimen of bile could be obtained for diagnostic purposes through a duodenal tube after injection of magnesium sulphate. He subsequently proposed that the same method

should be used for " non-surgical drainage " of the gall-bladder and bile ducts, but Venables found that it was unnecessary to use a duodenal tube, as an equally good flow of bile was obtained if the salt was taken in concentrated solution by mouth when the patient was fasting. As biliary stasis is one of the chief factors in the pathogenesis of cholecystitis, cholangitis and gall-stones, the administration of Epsom salts every morning is a valuable method of treating disorders of the bile passages. The dose should be the largest the patient can take without causing looseness of the bowels, when no other aperient is given. Some patients can take only half a teaspoonful or less, but others can take as much as a tablespoonful. Incidentally, I should like to remind you that Mr. Slesinger and Mr. Cook, when students in the Physiological Department, carried out some observations with me, which showed that the old idea, which, curiously enough, is still often taught, that a saline aperient acts by draining water into the bowel, is fallacious, as the watery stool passed an hour after taking it contained none of the salt, about half of which was found in the formed stool passed the following day. The remainder was excreted in the urine within eight hours of being taken. As the salt had not reached the colon by the time the watery stool was passed, the only possible explanation is that saline aperients are absorbed from the small intestine and act from the blood by stimulating the secretory activity of the colon, the distension of which results in the evacuation of its contents.

Olive oil has exactly the same effect on the bile passages as magnesium sulphate when introduced into the duodenum. It has the further effect of reducing the hyperchlorhydria which is present in those cases of cholecystitis which simulate duodenal ulcer. A tablespoonful should be given three times a day half an hour before meals. It is easy to understand the benefit derived from the " olive oil cure," which, after dying an ignominous death, has recently been revived by a notorious quack, who points to the tiny balls of calcium oleate found in the stools of patients taking large quantities of olive oil as evidence of the efficacy of his non-operative treatment in getting rid of gall-stones.

Epsom salts and olive oil should be taken for several weeks after cholecystectomy, as they help the common bile duct and Oddi's sphincter to adapt themselves to the new anatomical conditions and thus prevent the indigestion and occasional attacks of biliary colic which may otherwise occur.

Hexamine as a biliary antiseptic.—It has been known for many years that hexamine is excreted by the bile, but Dr. Knott was the first to prove definitely that it acts as a biliary antiseptic in spite of the bile being alkaline, although in the urinary tract it is inactive unless formalin is set free by the acid urine. Pure bile obtained through a duodenal tube has no antiseptic action, but if large doses of hexamine are given, the bile, which can be shown to contain unaltered hexamine, is strongly antiseptic, and any bacteria which are present in it before the treatment begins disappear. Formerly, the maximum dose of hexamine which could be given with safety was limited by the supposed necessity of keeping the urine acid. But hexamine is just as efficient a biliary antiseptic when sufficient alkali is given to make the urine permanently alkaline; under such conditions no formalin is set free, and enormous doses can be administered without causing any bladder irritation. A mixture containing 60 grains each of sodium bicarbonate and sodium citrate in two ounces of water is given after breakfast, after tea and last thing at night after drinking a glass of milk or water. The reaction of the urine is tested every time it is passed; as soon as it is found that the urine is constantly alkaline, if necessary after the dose of the alkalis has been increased, a hundred grains of hexamine is added to the mixture, so that 300 grains are taken a day. The treatment can be continued for periods of six weeks. The hexamine sterilises the bile ducts and gall-bladder, and, when combined with non-surgical drainage, it results in the cure of most cases of cholecystitis. This treatment should be given for a week or two before and after operation on the gall-bladder and bile ducts in order to guard against septic complications. In cases of severe infective cholangitis with jaundice, high temperature and rigors it has appeared to save the life of the patient.

Hexamine is excreted into the cerebro-spinal fluid and has been found by experiment to prevent the development of poliomyelitis in monkeys inoculated with emulsion of the spinal cord from fatal cases. I think, therefore, that large doses are worth giving in the manner I have just described to contacts in poliomyelitis epidemics, and possibly also during the acute stages of encephalitis and for the cerebral complications of ear and sinus disease.

Morphine and codeine in the treatment of diarrhœa.—About 25 years ago Magnus, of Utrecht, demonstrated that morphine and codeine in equal doses were more effective in combating artificially induced over-action of the bowels in animals than any other proportion of the alkaloids or than a dose of opium containing a larger quantity of both of them. I have found that this is equally

true in man. Chronic diarrhœa which can only be controlled by gr. 1 of codeine phosphate or gr. ¼ of morphine hydrate can often be stopped by gr. 1/10 or less of both alkaloids given together. In cases in which no cause can be found I begin with gr. 1/10 of each alkaloid before breakfast and, if necessary, before lunch and dinner, and gradually reduce the dose until the smallest effective one is found: this may be no more than gr. 1/15 or even gr. 1/20. If the diarrhœa causes disturbed nights the dose can be repeated on going to bed. Similar treatment is effective in cases of diarrhœa of known causation which cannot otherwise be controlled, such as the diarrhœa of Graves' disease, an uncommon but very serious symptom, and the diarrhœa of ulcerative colitis. The latter should be allowed to go unchecked during the day, but a dose of morphine and codeine given at night in severe cases prevents the exhaustion which otherwise follows the loss of sleep caused by the frequent action of the bowels.

Atropine in colon spasm.—If pain is present in any of the conditions just referred to gr. 1/200 or 1/150 of atropine sulphate should be added to the codeine and morphine. When intestinal spasm occurs without diarrhœa, it should be given alone; if constipation is present, the latter may be relieved without additional treatment. Belladonna can be used as a substitute for atropine; in some cases one is more effective, in some the other, and occasionally stramonium is better than either.

Paraffin in constipation and diverticulitis.—Liquid paraffin was first used in the treatment of constipation in 1908 by Neville Wood, a Kensington general practitioner. The pure oil is more efficacious than the innumerable proprietary preparations on the market, some of which are undesirable owing to the purgatives, such as phenolphthalein, which they contain. It is worth noting that when given directly after meals it is less likely to run through unmixed with the fæces than when given at other times.

Paraffin enemata are very useful in the treatment of constipation due to inefficient defæcation—dyschezia—when simple re-education fails. Severe cases of diverticulities with obstructive symptoms, with or without a high temperature and polymorphonuclear leucocytosis, almost invariably get well without operation if given a residue-poor diet, maximal doses of atropine and an enema of six ounces of paraffin injected every evening and retained during the night. If the bowels are not opened in the morning a pint of normal saline solution should be run into the rectum under low pressure, but this is not often necessary.

Vegetable mucilages and constipation.—Thirty years ago Sir James Goodhart pointed out that constipation might be caused by a "greedy bowel"—one which absorbed food so effectively that insufficient residue was left to produce an adequate stimulus to defæcation. Adolf Schmidt, of Halle, suggested that this class of case might be treated by giving a completely indigestible but unirritating vegetable mucilage which would swell on addition of water, and thus increase the bulk of the fæces. He used agar-agar for the purpose; but the manufacturing chemist who put it on the market as "Regulin," knowing that the public likes to get a good return for its money, added cascara and thus spoilt it. The widely advertised petrolagar and agarol are useless so far as the agar is concerned, as they only contain 0.3 per cent. and 0.6 per cent. of agar respectively. Consequently, instead of forming a jelly when mixed with water, nothing more substantial than a white scum collects on the surface (Hall-Smith). Petrolagar contains 61 per cent. paraffin, and is often given in a form combined with phenolphthalein, whilst agarol, which contains only 27 per cent. of paraffin, contains three grains of phenolphthalein to the tablespoonful. They both therefore really depend on a synthetic purgative for their activity and contain too little paraffin and a negligible quantity of mucilage.

Other mucilages have been introduced as substitutes for agar in recent years. I have found coreine, a French preparation, the most constantly useful, but isogel, an English preparation, and normacol, which is made in Czecho-Slovakia, are equally effective, though they more frequently give rise to digestive disturbance. Dr. Hall-Smith compared the behaviour of these preparations on mixing a teaspoonful with an ounce of water at the body temperature. Normacol formed a syrup in an hour and began to jellify in three hours; in 24 hours a firm jelly was produced. Coreine took about half as long again, and formed a uniform, but less firm, jelly in 24 hours. Isogel was intermediate. Psyllium seeds did not form a jelly at all; the seeds burst and made the water slightly syrupy; the seeds are passed almost unchanged in the fæces and are so sharp that they must produce a considerable amount of irritation of the intestinal mucous membrane. They may suit canaries, but they ought never to be given to human beings. A teaspoonful of coreine or isogel should be taken once, twice or three times a day. In severe cases paraffin can be taken at the same time. Both paraffin and the mucilages are useful in all forms of constipation as well as in dyschezia, as they make the stools softer as

well as more bulky, and thus easy to propel along the colon. For the same reason they are very useful in patients with hæmorrhoids.

Senna.—Although constipation can generally be cured by re-education of the conditioned reflex which results in defæcation, together with a suitable diet and paraffin or a vegetable mucilage, aperients are occasionally required. The most generally useful is senna, as the dose can be very accurately adjusted. If a three-hour cold infusion is made of the pods, very little of the colic-producing substance is dissolved; if, in spite of this, any discomfort is produced a minim of tincture of belladonna for each pod can be added to the infusion. The smallest number of pods which will produce a single formed stool the next day should be taken every evening, the number being adjusted from night to night. In many cases the bowels can be re-educated in this way, the number of pods being reduced one by one from an initial dose of, perhaps, ten until three, two, one and finally none is required.

I should like in this place to protest against the indiscriminating prescription of every new purgative pill introduced from abroad. The latest popular one is a French preparation called taxol. It is said to contain extract of intestine, extract of bile, with lactic acid ferments and 0.05 gm. of agar-agar! Not one of these ingredients can have the slightest effect on the bowels. The published constitution appeals to the imagination of the uneducated public, but there must also be some active ingredient which accounts for its aperient action. "Marienbad tablets" have nothing to do with Marienbad waters, their active principle being the same as that of Beecham's pills, which are made at St. Helens! Taxol has nothing to recommend it in preference to a host of British preparations; these in turn have the great disadvantage when compared with senna pods that the dose cannot be so accurately adjusted and that they do not provide a means of re-educating the bowels to do without drugs altogether. The habitual abuse of these purgative pills is the cause of far more ill-health than could ever result from untreated constipation.

(*To be continued.*)

The Suprarenal Glands: I.—Physiological Considerations

A Paper read before a Combined Meeting of the Physical and Physiological Societies

By G. M. Brown, Esq.

MR. CHAIRMAN and GENTLEMEN,—The object of this paper has been to select a few salient features from an extensive literature, and in reviewing them to attempt to see in what direction the rapidly accumulating evidence is leading us with regard to a solution of this enigmatic organ. Although the suprarenal glands were brought to the notice of the medical profession some 80 years ago by Dr. Addison of this hospital, and much speculation and patient inquiry has been devoted to them since that time, their functional significance has not yet been fully disclosed.

Having regard to their importance, the predilection of many cannibal races for a tasty morsel of their enemies' suprarenal fat is of suggestive interest.

From a naked-eye inspection of a section of suprarenal it is possible to discriminate quite sharply between an outer cortical and an inner medullary portion. On microscopical examination, the minute anatomy of these two portions is fundamentally different in a manner that I shall presently describe.

COMPARATIVE ANATOMY

In the elasmobranch fishes no suprarenal bodies are found, but between the kidneys is placed an inter-renal body, resembling mammalian adrenal cortex histologically. Associated with the sympathetic ganglia in these creatures are masses of tissue giving the same staining reactions and resembling medullary tissue in microscopical appearance.

Swale Vincent has suggested that, as a result of the evolutionary process, these two organs have become related anatomically, without losing their functional individuality.

EMBRYOLOGY

The cortex is mesoblastic in origin, arising from a mass of cells developed from the medial portion of the intermediate cell tract mesoderm, whereas the medulla is developed from the ectoderm of the neural tube. The neural tube is at first connected to the dorsal surface of the embryo by a rod of cells.

These cells later migrate in three directions: one group laterally to form the posterior root ganglion, another group ventro-laterally to form the sympathetic ganglia, and a third group further ventrally to form the suprarenal medullæ, the aortic, carotid and coccygeal bodies. This latter group on each side takes up a position related to the metanephroi and the developing cortex. The suprarenal bodies are described first in the 12 mm. embryo, the cortex becoming defined at 35 mm., and the medulla fully developed at 150 mm.

Lipoid has been described in the cortex at 24 weeks, and adrenalin by some observers as early as 12 weeks. At birth the cortex is the predominant tissue, but thereafter the medulla increases relatively, until at puberty the adult relationship is attained.

Thus we have histological, phylogenetic and embryological evidence that the suprarenal gland is really composed of two separate elements.

MEDULLA

Let us first consider the medulla. Histologically this tissue consists of a large number of irregularly disposed polyhedral cells, interspersed with some ganglion cells of the sympathetic type. The polyhedral cells are peculiar in their ability to take on a dark brown stain with chromic acid or its salts —a reaction which has earned for them the name of chromophil tissue. Granules staining with osmic acid are found in these cells, and are held by some to represent the granules of medullary secretion.

Separating the various groups of cells are large blood sinuses.[1] The blood which they contain is separated from the cells of the medullary parenchyma only by a layer of endothelial cells. The sinuses receive their afferent blood supply from a rich network of capillaries, which pass in between the palisades of the cortical tissue. Thus the internal secretion of the cortical cells can reach the blood stream through the medium of these capillaries, and the secretion of medulla may be poured directly into the sinuses. It is interesting to note that the human adrenal is the most richly supplied organ in the body, receiving 7 c.c. of blood per gramme per minute.

The similarity between the histological characters of the medulla and the sympathetic ganglia has long been recognised. Chromaffin tissue predominates over ganglion cells in the medulla, and ganglion cells over chromaffin cells in the sympathetic ganglia. It is significant that as puberty approaches the paraortic bodies diminish, whereas the medulla increases in bulk, suggesting a functional connection between these organs in view of their histological similarity.

The medulla is very richly supplied by sympathetic filaments of the splanchnic nerves. These filaments have been described, some as ending in relation to the ganglion cells, others by arborising round the polyhedral cells. Recently Dale[2] has produced evidence, based on five separate methods of biological assay, that acetyl choline is present in the perfusate of many tissues containing sympathetic synapses, which are being subjected to stimulation. Dale considers that acetyl choline is the humoral mechanism at least in the case of synapses of the autonomic system; possibly it is the ϵ substance of Sherrington. He has been able to demonstrate this substance in the perfusate of the suprarenal medulla, whilst the afferent splanchnic fibres are being stimulated. The usual interpretation of this fact is, that it is produced at the nerve endings of the splanchnic fibres in relation to the polyhedral cells, and that this relation is, therefore in the nature of a synapse.

This, then, is evidence that the suprarenal medulla may be regarded as a part of the autonomic nervous system, and enables us to look on the polyhedral cells as a variety of sympathetic nerve ending.

It is well known that the substance adrenalin is the secretion of the cells of the medulla, and that it may be demonstrated in the suprarenal vein after stimulation of the splanchnic nerve supply. According to Cannon,[3] adrenalin is only secreted in times of stress. Heymans has shown by cross-circulation experiments, in which the blood from the suprarenal vein of one dog is perfused through the vessels of an adrenalectomised preparation, that the blood pressure rose steadily. Other workers, using equally delicate methods of biological assay, have been able to show that some degree of adrenalin production is probably continuous.

Heymans has produced evidence that the influence of a fall in blood pressure on the nerve endings of the carotid sinus is to cause a reflex secretion of adrenalin. It has therefore been suggested that the blood pressure regulates itself in this manner: As the pressure falls, a discharge of impulses from the carotid sinus causes a secretion of adrenalin, which raises the pressure again, until such a level is reached at which the carotid sinus ceases to stimulate adrenalin production. Conversely, if the pressure rises too high adrenalin secretion is inhibited to such an extent as to allow it to fall once more.

As long ago as 1912 Elliott[4] showed that secretion of adrenalin depended on the integrity of the splanchnic nerves. Crowden[5], using appropriate experimental methods, has shown that adrenalin is formed in the medulla, after division of the

splanchnic nerves, up to the average adrenalin content, but that in these circumstances such supplies of adrenalin cannot be mobilised into the blood stream.

There is abundant evidence to show that the site of action of adrenalin is at the peripheral nerve ending, *e.g.*, adrenalin will produce a typical sympathetic effect in various organs after sympathetic denervation.

The faith with which adrenalin mimics the sympathetic nervous system in its effects led some of the early observers to believe that adrenalin represented the hypothetical humour that was believed to be liberated at the sympathetic nerve endings. Investigation showed that the mimicry was not quite exact, in particular did it fail to produce any effect on the sweat glands. However, Cannon has been able to demonstrate a substance which is present in fluid allowed to perfuse an organ which is being subjected to sympathetic stimulation. Critical examination of this substance shows that it differs from adrenalin slightly in its physiological effect, and that it mimics the action of the sympathetic in every way. It is as yet unisolated, and has been provisionally christened " sympathin " by Cannon.

The conclusion one reaches is that sympathin is produced at the peripheral sympathetic nerve ending, and that adrenalin, a modified sympathin, is produced by the modified nerve ending in the medulla.

As regards the chemistry of adrenalin, it may be said definitely to be derived from di-hydroxy-phenyl-alanine, which is itself a derivative of tyroseine.

Bloch[6] has shown that this substance is converted into a dark pigment, related to melanin, in presence of a ferment, tyroseinase, which is found in the melanoblasts of the skin. It appears, therefore, that adrenalin in the suprarenal medulla and a melanin-like pigment in the skin are produced by a common precursor—either di-hydroxy-phenyl-alanine or some related substance. [7]This fact has led to the belief by some pathologists that the pigmentary changes in Addison's disease are produced owing to the fact that the pathological changes in the medulla do not allow of the formation of adrenalin, and more of the precursor, common to adrenalin and the melanin-like pigment, becomes available for conversion into the pigment in the skin. For various reasons this explanation is unsatisfactory, and an alternative suggestion has been offered that the pigmentary changes are really due to a cortical effect. The cortical content of a peculiar compound, ascorbic acid, is decreased in Addison's disease This substance has been shown experimentally to inhibit the formation of pigment in biological oxidative systems. It is therefore suggested that the pathological depletion of this substance removes the inhibition factor to pigment formation, leading to the production of excessive quantities.

Cannon has been able to excise the whole of the chromaffin tissue and the sympathetic nervous system in experimental animals, without any noticeable effect on the animal so long as it is permitted to remain in the comparative shelter of laboratory life.

Summarising these few considerations of the medulla, we may say that a great deal of evidence points to it as a specialised portion of the sympathetic system. Its function is presumably to augment the activities of that system in times of stress, and it does so by producing a substance, adrenalin, closely related to di-hydroxy-phenyl-alanine, and tyroseine. It is not essential to life, and, indeed, its absence confers no apparent disadvantage on the individual, provided that he be protected from sudden environmental strains.

THE CORTEX

Histology.—Now we come to a consideration of the cortex. Three layers of cells are described: an outer zona glomerulosa, in which the cells are placed parallel to the surface; a middle zona fasciculata, in which the cells are arranged in radial columns, and an inner zona reticularis, with irregularly placed cells separated by blood sinuses. The cortex presents a yellow colour on examination, and it may be demonstrated by differential staining that this is due to the presence of lipoid esters of cholesterol. The cortex has a higher lipoid content than any other organ in the body, and this lipoid may be regarded as mainly derived from cholesterol. The relation of the suprarenal cortex to cholesterol metabolism has not yet been fully established.

The principal methods of study of the functions of the cortex have been by extirpation, and by administration of extracts prepared from cortical tissue.

There is no question that total adrenalectomy is an operation invariably attended by fatal results. That death is due to absence of the cortical influence is clearly shown by the fact that ablation of the medulla is without any grave consequence. Rogoff and Stewart[8] have reported that unilateral adrenalectomy is usually without effect, and Banting and Gaims[9] have recorded that a series of dogs with one suprarenal removed and the other medulla cauterised have lived up to two months.

Subtotal adrenalectomy is attended by a high mortality when less than one-eighth of the cortical tissue is left[8]; in such cases that do survive

Britton[10] has suggested that some degree of hyperplasia of the remaining portion occurs.

With regard to survival after total ablation of the suprarenal, all the observers agree that survival is comparatively rare, and that when it does occur accessory cortical tissue is always found at autopsy. The period of survival after the operation varies in different hands. For example, Rogoff and Stewart,[8] who are very experienced workers in this field, report 100 per cent. mortality in seven to ten days, whereas Swingle[11] reports 100 per cent. mortality in five to six days. These figures represent two series of cats. Elliott[12] finds an 11 per cent. survival, but in each of these cases he was able to verify the presence of accessory cortical tissue.

[13]Some of the older observers reported that a compensatory hypertrophy of the remaining cortical tissue occurred after partial adrenalectomy, but it is difficult to bring evidence to support this contention. Mackay and Mackay[14] have described such an hypertrophy apparently occurring, but in this case it was shown to be a degenerative process in the cells rather than a true compensatory hypertrophy. [15], [16]Transplants of cortical tissue into the rectus abdominis in rabbits have been successful in prolonging life up to 100 days after operative adrenalectomy. It is, however, a little difficult to see that this method of treating adrenal insufficiency will be of any practical value.

It is clear that total adrenalectomy is fatal to the animal unless some accessory cortical tissue is present, and, further, that we cannot look to compensatory hypertrophy to remedy the effect of partial extirpation, whether it be by a pathological process or by artificial interference.

The effects of adrenalectomy are very numerous. Briefly, for the first few days no untoward effects are noticed, and the animal appears to be in normal health. Eventually apathy, anorexia, weakness, convulsions and death ensue. As death approaches the body temperature falls, together with the blood pressure.

As early as 1913 Gradinesen[17] noticed that the viscosity of the blood was increased; his work has been confirmed by Nice and Fishman.[18] This effect is thought by Swingle to be due to an increase in the permeability of the capillaries, and the R.B.C. count is said to rise to the region of 10,000,000 per cu. mm. Various changes in the blood and tissue chemistry are described. The blood sugar and the liver and muscle glycogen are decreased; the blood lactic acid, urea and nitrogen, together with the serum calcium and phosphorus, rise.

It is of interest to note that in 1909 Gibelli[19] first pointed out the high incident of gastric ulcer after adrenalectomy; Rogoff and Stewart[20] have found these lesions in 48 out of a series of 118 cats.

A mention of these few effects of experimental adrenalectomy will serve to indicate how wide is the influence of this organ, which, until the time of Addison, was thought to be without function. The fact that the cortex is so clearly essential to life is of itself no proof that it produces an internal secretion. In the circumstances it is highly suggestive, but if it is true it ought to be possible to prepare an extract of cortical tissue, the administration of which would reverse the effects of experimental adrenalectomy.

Several attempts have been made to produce such an extract, but until recent years have been conspicuous only for their failure.

Rogoff and Stewart prepared an extract, with which they claim to have prolonged life in adrenalectomised cats up to three weeks. Hartman and his colleagues also produced an extract which prolongs life in cats up to five weeks. These extracts are of historical interest, only because they paved the way to the work of Swingle and Pfiffner, and, although they, no doubt, contained a small amount of the active principle, their effect is little more than to delay death. The attempts, however, do mark the recognition of the fact that the only adequate biological test for the existence of an active cortical principle is the prolongation of life by injection of a potent extract.

In 1930 Swingle and Pfiffner[21], [22] succeeded in preparing an aqueous extract of the suprarenal cortex. The extract is made first with alcohol, and subsequently it is fractionated with benzene, acetone and 70 per cent. alcohol. The final 70 per cent. alcohol is filtered through permutit to free it from adrenalin, and dissolved in water. This extract has been universally acclaimed as a potent extract, capable of prolonging life indefinitely in adrenalectomised animals. Swingle and Pfiffner themselves have reported perfect health up to 100 days. The extract is administered by intravenous injection, and, if the injections are withheld, it is found that all the symptoms of cortical insufficiency re-appear. Recovery has been recorded fairly constantly, even when the extract has been withheld until the stage when convulsions have appeared.

Administration of the extract produces the following results: Convulsions are abolished, the blood sugar and body temperature are raised, and the blood concentration decreases to within normal limits. Later, the liver and muscle glycogen increase, the blood lactic acid, urea and nitrogen,

and the serum calcium and phosphorus all decrease to their normal level.

According to Britton[23] and his co-workers, intraperitoneal injection in cats produces evident benefit in 15 minutes; within an hour they may be walking about, and in two hours they may be taking food. It is of interest to note that the dose required to restore the animal completely is 5-10 c.c., which is equivalent to 2,000 times the quantity estimated to be present in an average cat's suprarenal. A dose twice as large produces remarkable effects, normal dogs being stimulated to carry on twice or three times as much work. Sexual precocity has been produced in female cats by this method, which Britton[24] considers to be due to a concomitant hypertrophy of the basophil cells of the anterior lobe of the pituitary. I propose to discuss this aspect of the matter later.

Here, then, we have seen evidence that Swingle and Pfiffner's extract contains an active principle capable, when injected under suitable conditions, of neutralising the effects which on other grounds we have considered to be due to the removal of the suprarenal cortex.

Considerable controversy has arisen within the past few years regarding the prepotent function of the cortex, and up to the present time four noteworthy theories have been advanced. From the results of injection of their extract, Swingle and Pfiffner conclude that the function of the cortex principle is the regulation of a normal circulating volume of fluid in the vascular system. They consider that the adrenalectomised animal eventually died from a circulatory collapse due to an insufficiency of circulating fluid, which occurs as a result of a transudation of plasma through the walls of the vessels. They have drawn attention to the resemblance between the results of adrenalectomy and secondary shock in man, and believe administration of their extract to be a specific in the latter condition.

Accompanying the hæmoconcentration, which is regarded as the primary event, a marked increase of the urinary output of nitrogen occurs. The volume of urine is maintained until within a few hours of death, presumably in an endeavour to reduce the increased blood urea level. The conclusion reached is that the cortical hormone exerts a regulating influence over the water excretion, and that when this control is removed water is wasted by the kidney. The resulting dehydration is contended to be the cause of death.

Hartman considers that the cortical principle is something in the nature of a general tissue hormone. Britton and Silvette[25] find that adrenalectomy causes profound changes in the carbohydrate metabolism. The blood glucose and liver and muscle glycogen are depleted, the latter 95 and 50 per cent. respectively, an extent comparable to that obtained by pancreatectomy. This effect is not produced by ablation of the medulla. Injection of the cortical extract restores these levels, and recovery of the animal from symptoms does not occur until they are restored. Also, injection into normal animals, with intact suprarenals, is found to enhance the blood sugar level. These workers have subjected the views of Swingle and Pfiffner on the one hand, and Hartman on the other, to a critical analysis, and by appropriate experiments they have confirmed that a shift of the water balance from the blood to the perivascular tissues does, in fact, occur. They find, however, no evidence that intraperitoneal injections of saline or gum saline, although they restore the blood volume and are retained in the blood, have any effect on the progressive deterioration of the animal, nor do they prolong the animal's life at all.

The adrenalectomised animal, they say, does not lose its water, for the increased hydration, particularly in the liver and muscles, exactly balances the loss from the plasma. Furthermore, they have found that among the first effects of administering cortical extract is the elimination of fluid from the body, instead of preventing further loss. On the other hand, glucose injection does succeed in prolonging life, and in abolishing the terminal convulsions, which are unquestionably of a hypoglycæmic character.

The carbohydrate deficiency is sufficiently profound and critical *per se* to cause death, for we know that a comparable loss of indispensable oxidative materials is the cause of death after pancreatectomy or hepatectomy.

With regard to the theory of Hartman, all will agree that activities of the suprarenal cortex have extraordinarily wide ramifications. The extensive changes in the digestive, circulatory, neuromuscular, renal and genital systems seem to be secondary to the disorganisation of the blood chemistry which we have already noted.

Recently, Harrop and others[26] have opened up a new line of investigation. Disappointed with their results with Swingle and Pfiffner's extract in Addison's disease, they were prompted to examine the blood chemistry of adrenalectomised animals rather more closely, finding that the hæmoconcentration, which has already been commented on, was always accompanied by a marked decrease in the plasma base, especially sodium, and in the plasma chlorides.

Accompanying this is an increased urinary output of NaCl. They consider that this demands an increased water output also, in order to main-

tain the osmotic pressure of the plasma. They maintain that the resulting hæmo-concentration causes shock and death. They have noticed in this connection that animals on a low salt intake succumb more quickly than animals on a high intake of salt. In the course of their clinical practice they have noticed that patients with Addison's disease frequently did well on an extract which subsequently proved to be of low biological value. In such cases they have recorded a degree of improvement when the patient is put on to a high salt diet.

Summarising their conclusions, these workers believe that the extract is of value primarily in maintaining the plasma Na+ and Cl— content and in regulating the body's water output. To be of any value it should be given with a liberal quantity of salt.

INTER-RELATIONSHIPS

The connection between the suprarenal cortex and the other components of the endocrine system has long been recognised. It has been noticed that bitches at œstrus which are subjected to adrenalectomy live five times as long as their sisters; also that in pregnancy death does not occur until after parturition. The high cholesterol content of the cortex has already been remarked, and it is said that this is increased in pregnancy. We know that œstrin is related to cholesterol in chemical structure, and from the mode of extraction of the cortical principle it would appear to be lipoidal in nature. Is it possible that the prolongation of life in the pregnant adrenalectomised animal is due to the assumption by the ovary or placenta of an adrenal-like function? And is it possible that the cortical principle is derived from cholesterol, which we know to be present in large quantities at its site of origin? Little is known of these two questions at the moment, but at least it appears to be a possible field for investigation.

Britton and Corey[27] have been able to demonstrate complete suppression of the œstrus cycle in bitches after adrenalectomy, and further, in all cases studied it was possible to restore the normal sexual rhythm by injection of the anterior pituitary hormone.

Martin[28] has done a research into the factors involved in these sexual disturbances. By a careful series of controls he finds that avitaminosis or operative shock may be excluded. He finds that typical changes occur in the anterior lobe of the pituitary gland.

The animal is subjected to adrenalectomy, and it is found that œstrus is inhibited. Five days afterwards the pituitary is removed and transplanted into virgin rats; no development of the ovaries occurs. If normal pituitary glands are transplanted into similar virgin rats, the ovaries are found to hypertrophy, and a positive vaginal smear, according to the technique of Evans and Long, appears. This experiment is evidence of the fact that adrenalectomy diminishes the gonad-stimulating power of the anterior pituitary. Cytological changes in the anterior pituitary occur after adrenalectomy, the principle effect being a decrease in staining properties and size of the oxyphil cells, and therefore giving rise to a relative increase in the basophil cells. It should, however, be noted that these histological changes have not yet been fully substantiated. Finally, injection of Swingle and Pfiffner's extract always restores the sexual rhythm. These findings are a little suggestive that the suprarenal cortex produces its effect on the reproductive system indirectly through the medium of the anterior lobe of the pituitary, and in this rather unsatisfactory state we must leave the inter-relation of suprarenal and pituitary.

SUMMARY AND CONCLUSIONS

It is a matter of some difficulty at the end of a review of this kind to summarise and correlate the many facts which have been described, many of them appearing to have no particular bearing on the others. It is quite clear that, at present, it is not possible to be dogmatic about the suprarenal cortex in quite the same way as it is about the medulla. The cortex is essential to life, and it produces an active principle to which its effects may be attributed. Its removal causes marked changes in the circulatory system and in the carbohydrate metabolism.

It is unfortunate that there are two diametrically opposed schools of thought in the matter of the primary function of this organ. On the one hand death is said to be due to hypoglycæmia, and on the other to hæmo-concentration. In my opinion, evidence has been established to justify the view that either of these effects may be sufficient *per se* to cause death, and that if one of them is artificially remedied, then the other is still sufficient to kill the animal.

The other effects we may regard in the main as secondary. The convulsions and asthenia are due to hypoglycæmia, and the changes in the blood chemistry, apart from those directly attributable to a disordered carbohydrate metabolism, are due to hæmo-concentration. The cortex may therefore be said to regulate the carbohydrate metabolism, as well as the water and salt exchanges of the body, and it may well be that this organ,

like the liver, has more than one function to perform.

To say how far the observed effects of adrenalectomy are due to removal of the cortical influence directly, or to the removal of its influence on the other functional components of the endocrine system, is not, I consider, justifiable at the present stage of our knowledge. There is at least good evidence to show that the suprarenal is closely related to other endocrine glands; we have seen, as regards some of its effects on the gonads, evidence that they are due to a disturbance of the anterior pituitary. The inter-relation with the suprarenal cortex is further supported by the similarity between the clinical syndrome due to disease of the cortex and the basophil adenoma of the pituitary.

I regret not having been able to deal more fully with the interesting sexual relationships of the suprarenal, but the fact is that, apart from a bald description of the various clinical syndromes, little is known of the physiological processes involved, and these matters therefore seemed to fall more naturally into the clinical side of this discussion. No doubt you will hear more of them from that aspect.

Inadequate as this paper has been, I hope I have said enough to indicate that, in my view, there must, during normal existence, be a vast interlocking between the functional components of the endocrine system. The suprarenal cannot be considered apart from the other endocrine organs, and its malfunction may have numerous repercussions throughout the organism. It may well be that the numerous effects which have been observed after adrenalectomy are due to the removal of its influence on the endocrine glands, as well as to the failure of its own particular function in the bodily economy. At least the field of the endocrine relationships of the suprarenal is worthy of more complete investigation, in order that it may be determined which of the many functions accredited to it are really due to its direct influence, and which are dependent simply on the general endocrine balance, which it helps to maintain.

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Notice

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March 14th marks the 50th anniversary of the registration of the trade mark "Tabloid," the world's best-known trade mark in medicine and pharmacy.

"Tabloid" is a coined word registered in 1884 by Burroughs, Wellcome & Co., successors to Brockedon, who originated compressed medicaments in the form of biconvex discs under the designation of "compressed pills."

The ease with which the word "Tabloid" comes to the tongue and the universal recognition of the high standard of quality of all products issued under this trade mark has entailed a very diligent guardianship of the owners' rights. Until 1903, the owners' exclusive right to the word remained unchallenged, but in that year a successful action against "passing off" was taken in the High Court of Justice. "Tabloid" as a result of these proceedings was certified under Section 77*a* of the Trade Marks Act, 1883-1888, and Burroughs, Wellcome & Co. were awarded damages and costs. Time and again since then injunctions against infringement have been granted in Courts of Justice both in the British Empire and the United States of America. Even a foreign pharmacopæia has been required to publish a correction note in regard to the misuse of the word in the text.

When Next You Visit Paris

By "R. G. J."

ONE of the most delightful surprises which await the visitor to Paris is the intimate little restaurant known as an "auberge" or inn. Of these there are many, but, unfortunately, they vary considerably in type, quality and, last but not least, price. The exterior gives little, if any, indication as to the quality and price which exists inside, and a modest facade may conceal a menu designed for a banker's purse. One of the most famous used to have no prices marked at all on the menu, and the bill merely stated the total. If you were rash enough to protest, the Maitre d'Hotel was deeply pained, and would not discuss the matter further; no charge was made, which was worse still. This has happened, but that was before the war, and no restaurant, however proud, can afford such tactics now.

Some, like Larue, Voisin and Paillard have or had international reputations, and some, like "Bœuf à la Mode" and the "Restaurant de Laperouse," had picturesque beginnings, which have often been described. But what casual visitors want to know are the names and addresses of some of the best, what it will cost them, and what their best dishes or wines are. That is the aim of this article. It avoids the most expensive places, but one will not fare less well. A complete dinner for two with a "Mise du Chateau" Bordeaux, a reputable Burgundy or champagne, liqueurs, tips, etc., will cost *less* than 150 francs, or 25*s*. at the normal rate of exchange.

If you have only time to try one, I would suggest "The Rotisserie de la Reine Pedauque," situated near the Gare St. Lazare in the Rue La Pepiniere. A year or two ago the readers of a Paris daily voted this the best restaurant, all things considered, in Paris. Both inside and out it resembles an old-world inn, and on entering one is greeted by one of the chefs attending the chickens lined up on spits before a blazing fire at the end of the room. You will probably like the rooms upstairs best, with their panelled walls and leaded windows, each room only containing about half a dozen or less small tables.

The Yard-Square Menu requires time to be studied, but this may well be done over the Hors d'Œuvre Varies which should be ordered. About a dozen varieties will be placed on the table for you to choose from, but every now and then these will be removed to make way for another dozen. It is a principle of the establishment that everything is provided in unlimited quantities. If you ask for butter it will arrive in the form of a lump about the size of a football, floating on ice; delicious cream in half-gallon jars; fresh fruit salad in a wooden "wash-tub," which is left on a table drawn up alongside in case you should wish to give yourself a second helping. The most surprising sight, perhaps, is the venerable old Sommelier in his blue smock arriving from the cellar with your "Fine Champagne" in a 4-ft. bottle carried over his shoulder. When he rests it on the floor the cork is above the level of the table, and the quality has not suffered on account of the quantity. The goblets are of proportionate size, and he does his best to rely on your honesty to say "When." There are people, however, with whom he has to use his discretion, or the house would shut its doors.

One of the best things on the menu is the "Poulet de Bresse à la façon de la Mère Victoire," a rich but excellent way of preparing chicken in which both mushrooms and lobster play a part. Who "La Mère Victoire" was I have not discovered, unless some reference, perhaps, to the celebrated restaurant of "La Mère Fillioux" at Lyons. This remarkable old lady, who never changed her menu year in and year out, used to boast that thirty thousand chickens of her own rearing passed their dolorous way each year in and out of her ovens. It is said that those who saw her cut up a large fowl with no instrument but a murderous sort of dirk, about two inches long, in less time than it takes most people to cut a single page of a book, will never forget her genius, her engaging simplicity, her charwoman's blouse or her slouching carpet slippers. She was a very great cook.

Amongst the "Pièces froides" mention must be made of the "Foie gras à la gelèe au Porto," and later of the excellent iced pudding or "La Bombe de la Reine avec Gaufrettes."

The "Cave" or Wine Cellar is adequate without being remarkable.

Another good place is the "Relais de la Belle Aurore," not far from the Opera, in the Rue Gomboust. Surely the art of making Hors d'Œuvre, which we are told comes down to us in a modified form from ancient China, reaches its zenith at this little restaurant. The setting is, perhaps, less attractive than that of the "Reine Pedauque," although on the same lines.

The Hors d'Œvres commence with caviar on toast. Then the first of three double-decked

trollies arrives with all the types of Hors d'Œuvre of mammalian origin. I noticed amongst other things 12 different kinds of sausage, or " Saussicon " : Frankfurter, Strasbourg, Wiener Wurstli, Blutworst, de Morteau (from the Juras), d'Arles, Royal (from a recipe dating back to about 1680 and containing capon, partridge, veal, ham, bacon, eggs, mushrooms, truffles, spices and cream), Salami, and so on. When you have sampled these, a fresh plate comes, and with it the second trolley laden with every imaginable member of the crustacea family : lobster, crab, shrimps, prawns, mussels, oysters, ecrevisses, etc. The third trolley brings a bewildering array of dishes of vegetable origin, such as tetes d'asperges, fonds d'artichauds, and numerous salads, etc.

Hors d'Œvres as provided here are a combination of the principal ingredients of the Russian " Zakousky," the Swedish " Smorgasbord," the German " Vorspeise," and the Italian " Antipasta," all of which are more or less preludes to the actual repast.

But it must not be thought that the achievements of this little restaurant cease when one has passed the Hors d'Œuvres.

For the " Rotisserie Perigourdine " of Edouard Rouzier we cross the Seine, and where the Quai des Grands-Augustine widens out to join with Boul'Mich to form the Place St. Michel it will be found so placed that from your window, if you go upstairs, you may overlook the river, the Island of La Citè and also Notre Dame.

Most Parisian restaurants make a speciality of some particular aspect of their work. Chez Rouzier, this might be said to be his wine cellar, and, as one would expect from the name, Foie Gras and Truffles.

His " Carte des Vins " offers a choice from some 450 different wines, many of them difficult to obtain elsewhere. A white Bordeaux I can recommend is the Chateau de Tastes 1923. It is the Premier Cru of Ste. Croix du Mont, a village which stands upon a sort of cliff overlooking the whole of the Sauternes district, although itself, I think, in the Commune of Barsac. This wine, which is rarely seen on wine lists, is listed here at 30 francs. There is a Clos de Vougeot 1906 at 70 francs and a Romanée-Conti 1918 at 115 francs. Amongst the liqueur brandies I noticed a " Fine Champagne Chateaubernard 1815."

Still on the left bank but near the centre of the Quartier Latin in the Rue Vaugirard and facing the Luxembourg Gardens is the little " Auberge à la Comete de 1811," whose menus have the well-known studies of children by Bourdet on the reverse. This is one of the smallest of the restaurants described here, but in many ways one of the best. Two of the special dishes of the house are duck roasted with oranges (" Canard à l'Orange ") and " Poulet Sauté du Père Leon." The former may be had in other auberges, but in none I have tried has it reached the excellence achieved by the chef here. Another dish which is delightful and better here than elsewhere as a rule is the " Crepe flambèe au Grand Marnier." While one watches the thin, partly-cooked pancakes being turned to and fro in the burning orange liqueur one reflects on the sad fact that this little auberge now occupies a large part of what rightly should be Rue Vaugirard, and that one day, no doubt, the City Fathers will decide that a thoroughfare of normal width is more important than a skilfully-made Crêpe Flambée, and so . . .

To reach the " Auberge Bartek " in the Rue Royer-Collard of Rue Gay-Lussac is just a few minutes' walk in the Rue des Medicis alongside the Luxembourg Gardens to Place Edmond Rostrand, where Rue Gay-Lussac commences. This tiny restaurant boasts of having Paderewski and members of the Polish Legation amongst its clientele, and the little rotund waiter with the engaging smile will show you with pride the autographed portrait of the great pianist-premier.

The cooking is described as " Franco-Polonaise,' and is served in a room so narrow that there is just a double row of tables with the passage-way down the centre. The walls are covered with old coloured engravings of Polish peasant costumes and military scenes.

One may dine well here for rather less than in the other restaurants mentioned. Our chubby friend will recommend something or other à-la-Nelson, but you may ignore that ; he is merely doing his duty, as it is the most expensive article on the menu.

The " Auberge du Père Louis " has two establishments, one at 7, Rue de la Boule-Rouge, near the Folies Bergers, and one at 17, Rue Ponthieu, in the vicinity of the Etoile.

My chief impression of the latter was sitting in pleasurable anticipation while every now and again the old wood beams and check table-cloths of the little room were lit up by the blazing butter used for basting the chickens on the spit. For Père Louis is famous for his " Poulet à la Broche," and, moreover, he knows it is both psychologically and physiologically sound to excite the diner's digestive mechanisms by this visual, olfactory and auditory preamble to the repast. They say his chickens come from his own farm, which may partly account for their undeniable excellence.

Gaston Ballanger has arranged the menu of his restaurant, " Au Grand Veneur," also in the neighbourhood of the Etoile in the Rue Pierre-

Demours, in the form of a " Promenade Gastronomique a travers les Regions Culinaire de France." On Mondays we may sample the favourite dishes of Poitou and Vendée, Tuesday of Alsace, Wednesday of Gascogne and Languedoc, Thursday of Lyons and Dijon, Friday of Provence, Saturday of Champagne, and lastly on Sunday of Bourgogne. During the season they also specialise in " Plats de Chasse," for example, partridge roasted on the spit, hare, roebuck, woodcock, haunch of young wild boar, etc. All the grills and roasts are prepared exclusively with wood fires in view of the diners. The specialities are much too numerous to mention separately, but " Le Coq au Chambertin," which occurs on Sundays, is specially worthy of note, with its basis of red Burgundy, mushrooms, spring onions, etc. Also on Sundays is served " Le Dindonneau roti à la Broche aux Marrons " (" Young turkey roasted on the spit with chestnuts "). On Fridays, " L'Incomparable Bouillabaise Marseillaise," but to my mind it depends whether you hail from the " Midi " or not; if you don't there may be some doubt as to whether this form of fish-soup is incomparable. And so on. . . .

The interior is most attractive with its beamed ceiling, its panelled walls covered with hunting trophies, its red check tablecloths, open log fires and lights suggestive of candle light. For summer use there is also a large garden restaurant attached.

With so cosmopolitan a population it is not surprising that there are restaurants representing practically every nation of the west or east. If you enjoy an occasional chop suey, fried rice, bamboo shoots, noodles or bean curds followed, perhaps, by li-cheese or gum-gwaat in syrup, there are several Chinese restaurants in the Quartier Latin. Of these one of the best is " Pekin," in the Rue de l'Ecole de Medicine, but, above all, avoid what is described as a " Genuine Chinese Liqueur." Gum-gwaats, by the way, are often written " Kum-quats," and are tiny Japanese oranges about the size of a large cherry.

Even more exotic in atmosphere is the restaurant attached to the Arab Mosque or " Mosquee," in the Rue Geoffrey-St. Hiliare, near the Jardin des Plantes. The menu includes both Eastern and Western dishes, and is served in the appropriate atmosphere of Arab musicians, Persian rugs, divans, etc.

For those who prefer a dinner-dance I would suggest either " Le Lido," in the Avenue des Champs-Elysses, or the " Grand Ermitage Moscovite," in the Rue Caumartin. At the former the dinner tables partly surround a swimming pool in the form of a Venetian Canal, complete with a Bridge of Rialto and gondolas. There is also the dance floor, but frequently the cabaret performance takes place from a lit-up gondola sailing up the canal in an otherwise darkened room; a most striking and effective setting. The Ermitage is well known for the excellence and variety of the music it provides. Except for the dance music, this is usually Russian Folk Music played by a balalika orchestra or sung by a Cossack choir or soloists. The menu is also partly Russian, and usually commences with Bortsch, the celebrated national soup to which at the last moment a large spoonful of cream is added.

A table d'hote dinner at either of these places costs 30 francs each (but this may be safely doubled to allow for wine, tips, etc.). It will be generally admitted, however, I think, that from the purely culinary point of view these popular dinner dance places do not compare with the small " auberge " type of restaurant.

What is it besides their perfect understanding of the culinary art which makes the best Paris auberges unique? I should say that an important contributing factor is their appreciation of the importance of appealing to the eye and æsthetic sense of the diner as well as to his palate. They manage to convey the impression that the dinner is a very pleasant, but very serious affair, not to be hurried, and reinforce this idea with a considerable amount of theatrical display. Examples of this are the man in a chef's cap who arrives with a Bayonne ham and proceeds to carve a slice for your Hors d'Œuvre, the old man with grey hair who carves your chicken with such skill and then shuffles off to do the same for some other diner, the sommelier passing to and from his cellar in an old blue smock, and the essentially spectacular preparation of crêpe flambée in front of your own table.

Let it suffice to say that one leaves singularly content with the world and ready to agree with the wit who said, " O Vin, sans qui les choses ne seront que ce qu'elles sont " (" Oh Wine, without which things would only be as they are ").

Erratum

WE apologise for the following errors which occurred in Dr. Forman's paper in our last issue :—

P. 121, col. i, line 34.—" Hairy " for " horny."

P. 121, col. ii, line 25.—" Mucoabscesses " for " microabscesses."

P. 121, col. ii, line 34.—" Lupia " for " lupoid."

P. 122, col. ii, line 18.—" Injection " for " ingestion."

P. 122, col. ii, line 29.—" 8 per cent." for " 80 per cent."

Fifty Years Ago

A FEW weeks ago there passed away an old Guy's man in his 81st year, who will be affectionately remembered by the ever-diminishing number of fellow-students of his day —1874-1880. Alfred George Barrs held many of the resident posts with distinction, and when he left Guy's to take on work in Leeds his ability was soon recognised, and for the rest of his long life he was attached to the Leeds Infirmary and the Medical School, and enjoyed a large consulting practice as a physician. A great gain for Yorkshire, but a loss to Guy's.

During those early years a strong leaven of tradition was still influencing medical and surgical practice and new ideas were looked upon with suspicion. But to some of us, and notably to Barrs, those traditions as carried out in practice appeared to be often futile and sometimes absurd. A. G. B. was possessed of a critical turn of mind which enabled him to form definite opinions, founded on ascertained facts, in the face of accepted theories and to advocate methods of treatment founded on common sense, rather than upon text-book rules. An instance of this may be recalled in his strenuous recommendation of varied diet in cases of enteric fever, which, in those days, shared with rheumatic fever the head of the list of acute febrile diseases. Milk and milk only had been the routine treatment for typhoid cases. Perforation was a common occurrence, and clots of coagulated milk were not infrequently found to be protruding from the torn intestine. In a paper that attracted much attention at the time, Barrs showed that no such danger need be apprehended if more easily absorbed fluids were substituted for raw milk, but the old tradition died hard.

It fell to his lot to be appointed dresser to the late Mr. Thomas Bryant, a surgeon of the old school, just at the time when Joseph Lister was demonstrating the effects of his antiseptic methods at King's College Hospital, in Portugal Street. In company with the present writer, Barrs paid several visits to Lister's clinic and watched with very critical eyes every detail of the great surgeon's treatment of operation wounds, noting the successful results and the occasional failures.

The experience thus gained was gently brought to Mr. Bryant's notice, but conveyed in such tactful and humorous terms that, in spite of the rather vexatious nature of the information conveyed to him, the surgeon took it all in good part, but, for a time at least, old tradition still prevailed over new ideas.

It was at this time, too, that a much-needed reform of the nursing system at the Hospital was undertaken by the then Treasurer, Mr. Lushington, who enlisted the services, as Matron, of a lady who had done good work in the same direction at the Leicester Infirmary. She was a lady of majestic mien and adopted a commanding tone which was greatly resented by the whole medical and nursing staff. This resentment found expression in the pages of the *Gazette*, of which Barrs and the writer were co-editors at the time. Critical articles appeared, couched in humorous and sometimes caustic terms, which proved unacceptable to the Governing Body, and as a result the Journal was for a time suppressed, but, as more conciliatory methods were adopted, the agitation died down, the *Guy's Hospital Gazette* and its over-critical editors were forgiven, and the great " Guy's Row " of 50 years ago is now forgotten by all but a few of us.

E. C. B.

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The Editor will, at all times, be glad to consider articles or sketches, provided that they are accompanied by the writer's name and address, not necessarily for publication. The payment that the GAZETTE can offer is merely nominal. Authors who desire reprints of their papers should make their own arrangements with the printers when they return their proofs. All contributions to be addressed to *The Editor*, who does not accept responsibility for the views expressed by contributors.

Junior Staff v. Nomads

ON Wednesday, March 21st, the annual encounter took place between the Junior Staff and the Nomads, and resulted in a draw, each side scoring 6 points.

And what a struggle ! What a thrilling battle ! Wholehearted give-and-take all round, each man pulling his weight with that fierce intensity which could not fail to grip the minds of all who witnessed that historic melée. It is to be regretted that no more were present to watch this magnificent battle, but the enthusiasm of the spectators who were present, the larger proportion of whom were able to seat themselves comfortably in the " press " box, knew no bounds.

It is customary to describe the conditions before play commenced, and so one can say shortly that a gentle breeze was blowing from the north-west quarter, and the sky was overcast, with the sun making half-hearted attempts to burst through. The ground was very moist on the surface, and it was apparent that its firm foundation would prove deceptive to the heroes about to enter the arena.

Whilst the photograph of the teams was being taken amidst much noise, it was pleasant to sit back and reflect happily on the Junior Staff about to take their annual bout of exercise, some of whom one had rashly assumed already to be in the incipient stage of senile decay ; rashly, because all those thoughts were dashed to the ground when gazing later on the vigorous play of the Junior Staff. It was sad that Sam Shone was unable to provoke the mirth of the spectators yet once again, and that Bruce-Pearson and Bindle Wills were also unable to turn out, but substitutes who fully justified their inclusion, were found for these players.

Play started at 3 o'clock. It seemed to the " press " rather against principle that both teams should enter the field together, but this only served to accentuate the brotherly spirit in which this game was to be played. Clegg kicked off for the Nomads, who immediately made ground. This attack was easily thwarted by the Staff. Play soon became tense, and a forward rush by the Staff was only held up by de Gruchy unwisely falling on the ball ; this performance he did *not* repeat.

Very soon after the start Friedman Bishop was heard appealing for half-time, but this was very naturally ignored, whereupon he sat down to have a rest. Play, however, had never a dull moment ; a dangerous movement started in the centre and a long, low pass was sent out to Cosin, who was skipping about merrily on the wing. He unfortunately missed it, but continued to play a vigorous game of soccer down the touch-line. Hale-Munro was always to the fore, and was generously indiscriminate as to which side he tackled. Blaikley, looking his fiercest, was often a match for Hogbin, whose violent rushes could always be distinguished by the wild yells which preceded his advance. The referee, Ian Robin, worked hard in fetching the ball whenever it went into touch and had the game well under control. E. T. Coneybeare, with his purple stockings and sun-tanned face, made some bold dashes down the wing, but appeared to be unable to see the ball, so that they seemed rather fruitless. Simpson-Smith at one point cleverly " marked " two yards outside the touch-line ; this piece of skill was not disputed, and a throw-in was awarded. After 24 minutes, by unanimous decision, half-time was called, with no score to either side. Beer and cigarettes were handed out by Kirby from a table, and, as a matter of course, a few lemons were sucked.

The second half started with all the original fire. Robin removed his sweater and proceeded to assist the Nomads, Hale-Monro taking over the office of referee and at the same time playing whenever given the chance. At a critical point, when play was at its height, Pat Malone lost an essential part of his shorts ; after appreciating the quality and the variety of the spectators in the Stand, the referee decided that another pair should be substituted. This put new life into the Staff and, after a long run by Alexander, which was considered much too fast, Giesen scored very neatly under the posts ; the kick was taken by Simpson-Smith, but the ball failed to leave the ground.

The Nomads were now roused and, while Bradbeer was still in the process of falling down for no apparent reason and Cosin was still skipping about on the touch-line, Clarkson, with his moustache bristling in the wind, managed to force his way through and score with the lion-hearted Blaikley on his heels. With great enthusiasm Gus Falconer was chosen to take the kick ; it was a powerful kick and worthy of greater heights, but, sad to relate, it reached no height at all. Simpson-Smith generously offered him another shot.

Three points each, and, with the referee anxiously glancing at his wrist, where by some

lapse there was no watch, excitement reached fever pitch. Could the Staff pull it off? They made superhuman efforts, which only goes to prove that there's life in the dying dogs yet. From a gigantic heap of bodies in the mid-field, in which from the agonising and ear-splitting groans issuing forth one could rightly assume that Hogbin was at the bottom, the ball suddenly whistled vertically up into the air and was caught by Alexander, who proceeded to cross the line. However, feeling rather self-conscious about it, he returned and gave it back to Conybeare, who this time saw the ball and, burning the grass underneath by his very speed, finally flung himself over the line, to give the Staff a lead of six points to three. Blaikley took the kick, but the ball seemed to be carried to a far corner of the field by the wind.

The referee had now begun to take a very active interest in the game. He appeared completely to disregard the question of time, until finally, despairing of the ability of the Nomads to win by any honest means, he awarded them, for no obvious reason, a penalty kick; Hogbin kicked it, and the result was six points each.

The whistle blew for time, and so ended an epoch-making struggle, the result of which was always in doubt. It is customary, but in this case difficult, to indicate the worst players on either side, so they must be left to the imagination.

The teams were :—

Junior Staff.—A. Simpson-Smith; H. J. B. Atkins, P. C. Alexander, E. T. Conybeare, C. F. Cosin; J. Giesen, W. J. Ferguson; R. Bruce Pearson, P. M. F. Bishop, J. B. Blaikley, W. H. Bradbeer, R. A. Ratcliff, W. G. Gill, A. G. Johnson, D. W. Geidt, R. Van de Merwe.

Nomads.—J. Murdoch; J. E. Rowlands, C. de Gruchy, C. D. Malone, T. Morgan; R. A. P. Hogbin, A. Hale-Monro; A. Bowen Davies, H. Cameron, P. W. Clarkson, H. A. Hamilton, C. Outred, E. D. Falconer, E. C. Zorab, W. B. Clegg.

Nursery Rhymes

I.

THERE was an Old Sister who lived in a Ward,
She had so many nurses she got really bored.
So she ticked them off soundly and made them all weep,
And now it's her hobby, the something old sweep.

II.

Pat and Sam, Pat and Sam, sepsis ward,
Open my abscess or I'm utterly floored.
I've been to the Front and they gave me a card,
But I can't come to-morrow—ain't life blooming 'ard?

III.

Old Mother Gubberd went to the cupboard
To get out the forks for a face;
But when she got there,
Came a rend and a tear,
As Cuthbert presented his base.

IV.

"Hullo, Sister! Have you got a bed?"
"Yes, sir; yes, sir; Number 8 is dead."
"O.K., Sister; I'm sending up a case."
"Then will you bring some glasses, sir, there's not one in the place."

V.

Cony, Cony, why so stony,
How does your College go?
With unpaid rents and leaky gents,
And pediculi all in a row.

VI.

Little boy Dental, come pull out those teeth.
The patient is waiting, the bowl's underneath.
"Where is the man who's to put in the props?"
"He's round at the local, sir, soaking up hops."

Little boy Dental, come finish your drink,
The patient's complexion is not very pink.
"Get one of those Medicals to do it instead."
"I'm afraid that's off, too, sir—they're not out of bed."

VII.

A Student and a Clinical were fighting for a job;
The Student got hysterical and bust him on the nob.
Some said they shouldn't fight,
Some said they should;
But someone said, "You wuddy fools, they're both no wuddy good!"

AUNTIE ENEMA.

Correspondence

The Sinai Codex

To the Editor of the GAZETTE

SIR,—May I, through your columns, thank those who subscribed towards the purchase by the British Museum of the Sinai Codex.

Subscriptions amounting to £3 18*s*. 9*d*. were collected from the Nurses' Home and the College, and this was subsequently made up to £5. This sum was sent to the Director of the fund, who wishes me to thank those members of the Staff, nurses and students who contributed towards it.

Yours, etc.,

H. J. B. ATKINS.

57, North End House,
Fitzjames Avenue, W.14.

Sport

Rugby

Inter-Hospital Cup Semi-Final (Replay)

Guy's v. St. Mary's

AT Richmond on Thursday, March 8th, and before one of the largest crowds seen at a semi-final, Guy's were narrowly defeated by 2 goals (1 penalty) and a try to 2 goals (one dropped).

It was one of the most exciting games seen in the competition for years, and those who were fortunate enough to witness this match will probably have to wait a long time before they see another that is likely to approach such a high standard. In every respect it was magnificent, and undoubtedly the excellence of the St. Mary's forwards won them the match. They supported each other splendidly, especially in the loose, and some of their forward rushes were only checked by the glorious defence set up by Guy's.

On the other hand, the lighter pack of Guy's was very little inferior, and early in the second half they made a number of sweeping raids, which St. Mary's did well to counter, but they just lacked the solidity and backing up of their rivals.

Although T. Morgan and I. G. Robin were unable to turn out on account of illness, their deputies, C. S. Darke and D. M. Leeming, worked like tigers and were always to the fore in the attack.

With the St. Mary's pack dominating the scrums in the early part of the game, Cockburn, their scrum-half, sent out a variety of clever passes to Cross, and Owen-Smith and Jones running straight and hard, their wings were ready to carry on the movements. Steytler at fly-half played a very fine game—in fact, his best since he came to Guy's—both in attack and defence he was a tower of strength, and his kicking to touch was sure and accurate.

Once they got going the Guy's back division were extremely fast and elusive; they had hard luck on two or three occasions, but the opposing defence was sound and gave away very few chances.

There was no better back on the field than Giesen, the Guy's captain, and it must have been a great disappointment to him to see his side defeated after the wonderful efforts he put in. He got through a tremendous amount of work, continually feinting his way through a crowd of diving players and driving the determined attacks of the opposition back again and again with soaring kicks to touch.

Alexander was very closely marked and was not allowed many opportunities; however, his tackling was perfect, and when he did elude the opposition he was always dangerous and was largely responsible for the try which Guy's obtained.

St. Mary's were the first to threaten danger, but they were driven back and, after Guy's had threatened their line, Hyson led a dribble from a line-out and, fortunately for Guy's, he knocked on a bouncing ball when he was in a favourable position. From the scrum the ball was heeled quickly, and Jones passed to Owen-Smith, who shot off to the left and just beat the defence to dive over the line ten yards from the flag for a try, which was converted by Henley.

This reverse aroused Guy's to great efforts, but they were met by a solid defence and several excellent movements were nullified by some first-class tackling. However, near the interval an amazing run by Giesen looked a certain try. Emerging from a crowd of players near mid-field, Giesen made a wonderful run in which he must have deceived at least half a dozen of the opposition

and, when faced by the full-back, he punted ahead, but St. Mary's touched down in the nick of time.

With a re-arranged pack Guy's set about the game after the interval with increased fury and simply bewildered the St. Mary's defence. They hammered at their opponents' line for some minutes, and eventually their efforts were rewarded. Steytler secured possession and timed his pass to Alexander to perfection, who found a gap in the defence and raced through to the 25 before passing to Wright. The latter carried on the good work to the line and, after cutting in beautifully, he passed inwards and the ball went loose. Before anybody could appreciate the movement Johnson dashed up from out of the blue and was over the line between the posts for one of the best tries seen this season, and Hogbin kicked the goal which made the sides level.

This was a splendid tonic for Guy's, as they kept up the pressure and before very long a huge punt over the full-backs' head was followed up closely by Giesen and Steytler, but St. Mary's touched down in time. Soon afterwards Guy's obtained the lead, when Giesen fielded a kick ahead by Owen-Smith, and, taking careful aim from some ten yards from mid-field, dropped a marvellous goal, to give Guy's an advantage of four points.

The raging tempest that had been was now intensified, and, following some loose play, Cross picked up and, after a very fine run, he scored a brilliant try for St. Mary's, which Henley just failed to convert.

Incident followed incident, and both sides went near, and on several occasions Guy's came within an ace of, scoring. With five minutes to go, Jones punted ahead and Owen-Smith, following up hard, caught Lindsey in possession, who, almost immediately it seemed, was penalised for not playing the ball. It was in front of goal not 15 yards from half-way, but Henley steered the ball safely between the posts, and thus St. Mary's obtained a two points' lead.

In the closing moments Guy's made strenuous efforts to secure the lead, and near the end Hogbin just missed a penalty kick from a difficult angle and, with St. Mary's fumbling the ball, a five-yards' scrum followed. Guy's appeared certain to score, but the St. Mary's forwards wheeled and eventually drove back the attack, and no-side sounded immediately afterwards. One could not wish for a more exciting finish, and Guy's are to be congratulated upon their magnificent display, especially in the second half.

Kark and Hogbin were outstanding amongst the forwards, and worked hard throughout, and Lindsey at full back played a sound game, which gave confidence to those in front of him.

Team.—M. J. Lindsey; C. G. Wright, P. C. Alexander, J. E. Giesen (Capt.), A. G. Johnson; J. van A. Steytler, D. I. Chapman; M. R. Kark, A. G. Heberlein, C. S. Darke, H. H. Crabbe, R. J. Drummond, R. A. P. Hogbin, A. R. Clarke, D. M. Leeming.

Guy's v. Leicester

FOLLOWING their hard struggle with St. Mary's, Guy's visited Leicester on Saturday, March 10th, and were defeated by 2 placed goals and 3 tries (19 points) to nil.

With the exception of the full-back, where Hale-Monro deputised, Guy's fielded the identical side which had taken part in the re-played Hospital Cup Semi-Final, but, as the game progressed, it was apparent that several members of the side were either suffering from staleness or had not recovered from this gruelling contest. One of the few exceptions was Giesen, whose defence was well-nigh perfect, and whenever he received the ball in the attack he was always a source of danger to the home side.

Leicester were fortunate enough to find the excellent substitutes for Gadney and Slow, who were playing for the East Midlands in the County Championship, but Guy's missed the assistance of both T. Morgan and I. G. Robin in the pack.

Alexander was very closely watched, and, as a result, Wright had very few chances on the wing, but in the closing stages of the game he came very near to scoring and only missed by a fraction of a second.

Heberlein, Hogbin and Darke did some splendid work for the pack, and the former's work, both in the set scrums and line-outs, was really magnificent.

After Hogbin had kicked off for Guy's, the Hospital forwards swept down to Leicester's 25, only to be driven back by Jackson. Within five minutes McClean made a fine cut through from the Hospital's 25 and, when faced by Hale-Monro, passed to Hewitt, who ran in easily for a try, which Hughes failed to convert.

After Jackson had found a gap in the defence and Lloyd had failed to take his pass, the Hospital brought off some excellent tackles, and eventually threatened the Tiger's line. However, some excellent passing between the Leicester half-backs led to another try, when Lloyd cut through and kicked ahead, and, with Hewitt and Adams following up close, the former managed to touch down for another unconverted try.

After this reverse, both Giesen and Alexander made splendid attempts to get through, and on one occasion Johnson had a clear run in had he held the slippery ball. A moment later Giesen

made the Tiger's defence look simple when he wriggled his way through half the side; however, Leicester did not allow themselves to be penned in their own half for long and, following good work by McClean and Buckingham, Jackson was nearly through, but a moment's hesitation cost him a try when he was tackled in possession.

A dashing raid led by Darke and Crabb carried play to the other end of the field, but eventually the home pack got on top and, following good work by Greaves and Hewitt, Robinson got away and scored a try behind the posts, which McClean converted.

Near the interval, Leicester established a commanding lead when Jackson took a pass at top speed and, running strongly, got to within ten yards of the line when he passed to Hewitt, who registered another try, which was not converted.

The second half opened in rather scrappy fashion, and, although Leicester pressed, good kicks to touch by Alexander and Steytler sent them back. Eventually a fly-kick sent over the Hospital line and, with Hale-Monro failing to touch down, Wormleighton dashed up to score a try, which McClean converted. First McClean and then Greaves tried to force their way over the line, but Guy's checked them in time, and by degrees worked their way into the home half. A penalty to Guy's gave Hogbin a chance, but it was too far out for Hogbin to score, but soon afterwards a mark to the Hospital was fumbled by Barr five yards from the line, and the ball went into touch.

Guy's were driven back, and the slippery state of the turf made it difficult for the players to keep their feet, and mistakes were plentiful. However, Alexander and Wright managed to break through, and the latter, after a fine run, kicked ahead, but Barr was in position and drove the Hospital back with a hefty kick to touch, when the whistle sounded for no-side.

Team.—T. A. Hale-Monro; C. G. Wright, P. C. Alexander, J. E. Giesen, A. G. Johnson, J. van A. Steytler, D. I. Chapman; M. R. Kark, A. G. Heberlein, H. H. Crabb, D. N. Leeming, R. J. Drummond, C. S. Darke, R. A. P. Hogbin, A. R. Clarke.

Hockey

Guy's v. Caius College, Cambridge

THE weather was just right at Cambridge on Saturday, February 24th, when Guy's played a drawn game with Caius College, both sides scoring twice.

The ground, said to be the best in Cambridge, certainly came up to reputation, and the result was a very fast and most enjoyable game. There was no score up to within five minutes of half-time, and during the whole of the first half there was very little to choose between the sides. The Caius forwards were extremely quick on the ball and their passes seldom went astray, but the whole of the Hospital's defence were equal to the frequent attacks, and played a sound and energetic game. In the first half the Hospital all but scored when Bookless got away down the left wing, and ran on himself, only to be beaten by the goalie, who came out.

Shortly before half-time, the Caius forwards had another attacking movement. Passing the ball well, they succeeded this time in beating the Hospital's defence and scoring the first goal of the match. From the next bully the Guy's forwards attacked hard and the ball was kept in the Caius 25 for some moments of very exciting play before Jelly scored with a good goal with the reverse stick shot. At the interval the scores were level at 1—1.

The second half still showed very little difference between the sides, and both teams played all out. H. G. N. Cooper played a great game at centre forward, holding the line together right through, and he was responsible for the Hospital's other goal in the middle of the second half. Guy's led by 2—1 for some minutes, and it looked as if they would just win. Then, after a Caius break-away, Brown came out to save, the ball was returned to an opponent, who was just outside the circle, and the Hospital goal was left undefended. Meanwhile Greene, who had been playing a good game, rushed into the goal mouth, saved the shot, and cleared to the wing. A moment of great suspense was thus successfully relieved.

The whole game was delightfully clean and extremely fast, the good ground causing no injuries, and the Hospital side enjoyed playing one of their best games of the season.

Team.—H. V. Brown; A. C. Greene, T. C. Thorne; A. C. Hill, R. G. Archer, A. E. Loder; J. W. Dryland, A. G. Richmond (Capt.), H. G. N. Cooper, G. O. Jelly, A. S. Bookless.

Squash Rackets

A COUPLE of severe defeats were inflicted on the Hospital during the last fortnight. They were partly atoned for by a win later over the King's Club, Richmond.

On Tuesday, February 27th, Guy's played The Rump, and were defeated by 5 matches to love. The results were :—

M. A. Partridge lost to I. Dear ....1—3
H. G. N. Cooper lost to H. P. Thurlow-Price 0—3
A. D. Willis lost to A. W. L. Franklin .....0—3
C. A. Boucher lost to Col. Kearsey ....1—3
R. A. P. Hogbin lost to P. Jessel ....2—3

On Saturday, March 3rd, a Hospital side went up to Northampton to play the Chamber of Commerce Club, and, during a most enjoyable evening, was duly defeated by 5 matches to love. The results were :—

M. A. Partridge lost to W. H. Metcalfe	2—3
C. A. Boucher lost to J. C. Kidner	0—3
C. G. Baker lost to B. W. H. Lenton	0—3
R. Bruce-Pearson lost to B. L. Laver	1—3
J. Forster lost to E. J. Gordon	0—3

On Thursday, March 8th, Guy's played the King's Club, Richmond, and won by 4 matches to 1. Owing to the unavoidable absence of one of their side, P. W. Clarkson helped to represent the Kings Club. The results were :—

M. A. Partridge lost to B. W. Greenup	0—3
A. D. Willis beat F. C. Robinson	3—2
H. G. N. Cooper beat B. Blundell	3—0
C. A. Boucher beat R. L. Tomlinson	3—1
C. G. Baker beat P. W. Clarkson	3—1

Hospital Information, etc.

Notice

Guy's Hospital Medical School

PRIMARY FELLOWSHIP COURSE

Any Guy's men who intend to sit for the Primary Examination for the Fellowship of the Royal College of Surgeons in June, 1934, and who wish to attend a class either in Anatomy or in Physiology or in both subjects, should communicate at once with the Medical School Office, in order that arrangements may be made for a Special Course, at a reduced fee, to be held during the month of May.

T. B. JOHNSTON,
Dean.

Testimonial to Mrs. Archer

The following is a further list of subscribers to the above Fund :—

Adams, S.
Alabone, L.
Ayling, A. C.
Barber, N. L.
Barnes, J.
Bradfield, G. R. D.
Bulleid, A.
Churchill, H. C.
Coxon, C.
Curle, G.
Daniels, C. S. V.
Davies, F. G.
Dibble, G.
Fox, T. F.
Fuller, F. H.
Greenwood, A. W.
Hack, H.
Hadsley-Bennett, A. R.
Hart, M. C.
Hathorn, H. N. V.
Hooper, K.
Hope, W.
Hudson, J. A.
James, H. G
Lean, J. L.
Machin, L.
Matthews, R. S.
Moore, R. A.
Parfitt, J. B.
Paxon, G. E.
Pearce, F. J.
Percy, A. J.
Percy, A. F.
Powell, R. W.
Pugh, E.
Rowland-Hill, W. R.
Smith, L. H.
Spencer-Payne, A. L.
Spouse, H. A.
Taylor, D. H.
Thomas, C. E.
Tupling, L. P.
Veale, R. M.
Wain, D.
Walker, F. A.
Wheatley, R. J.
Worth, H. M.

Pass List

ROYAL COLLEGE OF SURGEONS.
L.D.S.
FINAL EXAMINATION.
February, 1934.
PART I.
Surgery.

K. C. Baker
J. C. Carr
S. G. Lattouf
H. Stewart
R. J. G. Hayton-Williams
W. A. Jones
J. B. Knight
K. G. Swiss
J. C. L. Wren
V. H. Bowles
H. Cowen
J. A. T. Rowlett
R. O. Barber
G. M. Johnson
H. Kauter
A. G. Smith
D. P. Walther

PART II.
Dental Surgery.

V. H. Bowles
S. G. Lattouf
J. M. Alexander
F. N. Beken
W. F. Collyer
J. Entwistle
J. W. Mallam
D. F. Malt
W. E. Nelson
H. G. Poyton
E. S. Venning
H. Cowen
J. A. T. Rowlett
L. J. Bailey
R. Chartier
F. C. Dutton
G. D. Fleetwood
D. Lennie
K. Morris
J. H. Pitman
J. W. Rose
D. S. Roubenheimer

UNIVERSITY OF CAMBRIDGE.
MASTER OF ARTS.
W. G. Gill.
BACHELOR OF MEDICINE.
W. G. Gill.

Papers by Guy's Men

C. Worster-Drought. The recognition of early organic disease of the nervous system. *Med. Press and Circ.*, 1934, clxxxviii, 240.

H. L. Attwater and E. Jacobson. Large vesical diverticulum. *Lancet*, 1934, i, 483.

Change of Address

C. H. Fagge, 12, Hill Road, St. John's Wood, N.W.8; also 10, Devonshire Place, W.1. *Maida Vale* 5488.

G. W. D. Reeves, The Bute Hospital, Luton, Beds.

Montagu F. Hopson, Pinegrove, Crowthorne, Berks.

G. H. Oriel, 143, Harley Street, W.1.

EDS. { G. L. B. T.
D. P. K.

GUY'S HOSPITAL GAZETTE

A Journal of Medicine, Surgery, Dentistry and Hospital News.

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PASSIM

IN Number 1189 we gave an account of the alterations which were proposed as a result of the building of a new block for paying patients. The Annexe and Children's Ward are shortly to be pulled down, and the work of arranging their new homes is now in full swing.

The old Women's Side of the Front Surgery is shut off by canvas screens, through which we peer into a scene of dust and plaster. Doors are being made, and the hammer and paint-brush are once more in evidence. The new V.D. Department will have separate entrances for men and women. Hitherto male and female patients have used a common approach to the Annexe, which is manifestly undesirable. The doors will now open on to Maze Pond, and many are questioning the effect on attendance of so public an ingress. It has been found in other clinics that direct approach to a venereal disease centre has had no effect whatsoever on the numbers who turn up, and, with the improved facilities for treatment, we may expect no falling off. Those patients who dislike being seen entering the Annexe can still come in through a door in the Out-Patients' Hall, so that the widely advertised conditions of secrecy are fulfilled. An innovation in the women's side of the Annexe is a soundproof room for examining babies—this is an idea which might be extended to other departments.

The effect of depriving the Surgery of the three rooms which have been used for fevers and infectious diseases is already apparent. There is now one very small and inadequate children's room; the door opens inwards, striking the mother a violent blow in the back, and there is just room for a thin person to squeeze between the O.P.O.'s chair and the couch. No provision is made for cases awaiting the take-in H.P. The isolation of fevers provides a further problem. One room, which communicates freely with male and female sides of the Surgery, is provided for fevers and a happy family of measles, scarlets and diphtheritics may be seen awaiting the ambulance together. The prior claim of a B.I.D. will necessitate their waiting in the open hall. There seems to be no way of surmounting these difficulties, but every improvement has its corresponding sacrifice.

The new Back Surgery in the old Orthopædic Department is nearly ready. The Plaster Room is to become a waiting-room, and patients will proceed round the corner for dressings. As the floors are all on the same level, we note that the architect has been deprived of his usual practical joke in the form of a breakneck step or sudden declivity. The place is well lit and roomy, and couches are provided. These are screened by the curtains which have proved such a failure in Surgical Out-Patients. It would have been much better to provide shoulder-high wooden partitions, which cut off less light, are less cumbersome, and save the expense of washing and renewal. Still, this move will prove welcome, and the fresher atmosphere will lessen the incidence of fainting attacks.

The transference of the babies to Bright has not yet started, but no doubt the Department has many new ideas up its sleeve. We shall watch the growth of Lord Nuffield's block with great interest.

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SPRING is always a cheerful season of the year. It is a season of new life, new hopes and great expectations. This year the handsome Budget surplus gives the "joy of Spring" an added

fillip. The present times are hard, and it is only by considerable sacrifices that the surplus has been obtained. It seems certain that Mr. Chamberlain will be able to promise some relief from our burdens and some prospect of a continued progress towards a new era of prosperity.

THE Rugger side had a wonderful reception down at Aberavon in the last match of the season. It was a well-fought game with many thrills, so that it must have been as much a satisfaction to the players as to the spectators. We hope to include a review of the past season in our next number. It has been a very successful one on the whole, and the two matches against St. Mary's Hospital will certainly have a permanent place in the history of inter-hospital Rugger.

WE announce a rare treat in the form of a Sale of Work, which will be held in the Nurses' Home on April 21st. It is to be no ordinary function of samplers and old books, but a social event attended by the most beautiful women and gallant men for miles around. We urge everybody to cancel any previous engagements for that day, so that they may be included in this superb gathering.

Some Useful Drugs and How to Give Them

A Clinical Lecture delivered at Guy's Hospital by A. F. Hurst, Esq., M.D.

(*concluded*)

The treatment of anæmia.—Dr. Witts has recently given such clear accounts of the treatment of anæmia that I should not have referred to it now were it not that I find that iron and liver are still often given indiscriminately, proprietary preparations containing the two together being very popular, that the dosage of iron is generally insufficient, and that iron injections have not yet passed into the oblivion they deserve. Anæmia as a cause of symptoms is far more common than is generally recognised, and many middle-aged women with chronic ill-health, which is often ascribed to the menopause, are really suffering from an easily curable anæmia. The vast majority of cases of anæmia, including those which follow hæmorrhage, respond with great rapidity to treatment with iron. When I first came to Guy's the popular *Mist. ferri arsenicalis* contained five grains of iron and ammonium citrate with five minims of *Liquor arsenicalis*. When I was Dr. Beddard's clerk in Out-Patients he told me to double the dose of iron and halve that of arsenic. Later I increased the iron to 15 grs. and then to 20 grs., and Dr. Witts has shown us that we should increase it still further to 30 grains. It is unsafe to give still larger doses, as one patient of mine almost died from acute iron encephalopathy following the administration of 40 grs. four times a day for three weeks.

We now know that arsenic is useless, and that iron given by injection is quite inert; the popular and expensive Fraisse's ferruginous serum may have some effect on the mind, but it has none on the blood. When 30 grs. of iron and ammonium citrate are given three times a day the hæmoglobin generally increases by about 1 per cent. a day, but still more rapidly if the anæmia is severe; for example, a youth of 20 with splenic anæmia who came in with 14 per cent. hæmoglobin was prepared for operation by giving him this dose of iron; his hæmoglobin percentage rose to 76 in 45 days. The anæmia in carcinoma of the stomach and colon often improves very quickly, and no case should undergo operation with less than 80 per cent. hæmoglobin. Only if the hæmoglobin is very low is it necessary to hasten matters by one or more preliminary transfusions. Liver is quite useless in all anæmias except Addison's (pernicious) anæmia and some closely allied myelocytic anæmias, such as that of sprue, and it should be reserved for such cases. Incidentally, I should like to emphasise the importance of keeping the hæmoglobin just over 100 per cent. in Addison's anæmia, so as to guard against the development of subacute combined degeneration of the spinal cord. This can be most conveniently managed by giving intramuscular injections of some liver preparation as often as it is found necessary, generally once a week, after the hæmoglobin has been once raised to the proper level. A new preparation will probably be available soon which is so potent that an injection once a month or six weeks will be sufficient.

Adrenaline in asthma.—In the treatment of the asthmatic paroxysm the preponderating activity of the vagal over the sympathetic nerve supply to the bronchi can be overcome by means of drugs, such as atropine, which paralyse the vagus, or by adrenaline, which stimulates the broncho-dilator fibres of the sympathetic. The inhalation of fumes from powders containing stramonium or belladonna, which was formerly the universal method

of treatment, had the grave disadvantage of causing chronic bronchitis by irritating the bronchial mucous membrane. This treatment should never be used, as the opposite method of restoring the balance by means of adrenaline has no such disadvantage and is also more promptly and more constantly effective. The patient should be taught to inject the adrenaline himself, as if he does this at the first sign that an attack is developing it will be aborted, and one or two minims will often be sufficient, though five or more would have been required had he had to wait for a doctor or nurse to give the injection at the height of the attack. This small dose gives rise to none of the unpleasant symptoms often caused by larger doses, and as it does not even raise the blood pressure there is no danger of damaging the arteries. Its use has in many cases the further justification of making good a deficiency in the secretion of adrenaline, just as thyroid preparations do in myxœdema. The treatment also reproduces the way in which relief may on rare occasions occur under natural conditions. If an individual during a severe attack of asthma comes under the influence of sudden fear or anger, the two emotions which Cannon showed stimulate the secretion of adrenaline, the attack immediately ceases, the patient having had an " autogenous dose " of adrenaline. We may hope that the time will come when asthma will be curable, but until that consummation has been attained, the proper use of adrenaline deprives asthma of most of its terrors, and makes it possible for every asthmatic to live a life of moderate activity.

The rare condition of status asthmaticus, in which severe asthma continues uninterruptedly for days or weeks and may end in fatal exhaustion, can always be arrested by the method of continuous adrenaline injection, which I first used about ten years ago and which has since been found to be equally effective in the treatment of anaphylactic shock. The needle is kept in position with a full syringe, and after an initial injection of a dose which is known to cause no unpleasant symptoms, one or more minims are injected every 15, 30 or 60 seconds, according to the patient's reaction, the rate being varied until it is found how frequently the injection can be made without any unpleasant symptoms arising. The injections are continued, if necessary, for even half an hour or more ; relief always follows and generally manifests itself by the patient falling into a deep sleep, which may be the first he has had for several days.

Short paroxysmal attacks of abdominal pain with vomiting or diarrhœa or both are occasionally allergic in origin. They occur in individuals with a personal or family history of asthma or other allergic disease, and the attacks are associated with eosinophilia. They can often be prevented by excluding certain articles of food, such as pig, to which the patient is found to be sensitive, but, if this does not prove successful, they can always be aborted by an injection of adrenaline. Adrenaline is equally useful in many cases of urticaria.

Caffeine and iodide in asthma.—The slight shortness of breath which is generally present in the intervals between attacks of asthma can often be relieved by means of caffeine, thus enabling a patient to take more exercise than would otherwise be possible. Half an hour after taking three or four 2-gr. caffeine citrate tablets an asthmatic may be able to enjoy a round of golf, which would previously have been beyond his powers. No caffeine should be taken after 6 p.m., as it is likely to prevent sleep at night.

Apart from adrenaline, iodide is probably the most useful drug in asthma. A dose of 5 gr. given at night or night and morning is enough ; larger doses are often harmful, and in most cases it is best given without stramonium or expectorant drugs. It has the effect of making the tenacious mucous plugs and spirals of uncomplicated asthma more watery, so that the patient can expel them without the paroxysms of coughing which always greatly aggravate the dyspnœa.

Carbon dioxide in hay fever.—In the summer of 1925 I visited Mont Dore, " la providence des asthmatiques." It is one of the coldest and rainest places in France, but it is situated 3,500 feet above sea-level, so that its altitude exerts a favourable influence on many visitors. Drinking the waters is regarded as an essential part of the treatment, but I feel very doubtful whether the trace of arsenic they contain can have any beneficial action. Walking round a room filled with the vapour of Mont Dore water at a temperature of 90° F. is the treatment upon which the physicians there lay most stress, on account of the " sédatif, décongestif, détersif, dérivatif, anticatarrhal et antispasmodique " action which the vapour is said to exert on the bronchi, and there is no doubt that it helps many asthmatics. A nasal douche of the gases derived from the Mont Dore water, consisting of over 99 per cent. of carbon dioxide, for 5 to 15 minutes is commonly used. It produces a slight tingling sensation in the nose, and occasionally a burning feeling at the top of the head—probably when some of the gas enters the sinuses. Though it is claimed that the inhalation owes most of its success in the treatment of nasal catarrh to the fact that the gases are a natural product, I was so much impressed by the improvement which occurred in my own case that I thought a douche of ordinary carbon dioxide would be worth

a trial at home. Before my visit I had been suffering from vasomotor rhinitis, and almost always had a running nose, with paroxysmal attacks of sneezing and rhinorrhœa. The one thing which Mont Dore did for me was to improve the condition of my nose.

For a long time I was unable to obtain a satisfactory apparatus, as the manufacturers would only supply the gas in enormous cylinders, and it proved impossible to make a generating plant which was safe as well as small. In 1930 I saw Sir Francis Shipway give an anæsthetic, with which he mixed carbon dioxide from a small cylinder in order to make the patient breathe more deeply. These cylinders are now widely used, and an apparatus can be obtained in which a nose-piece, like the ear-piece of a stethoscope, is attached to it by a rubber tube. The patient breathes through his mouth and a moderately rapid stream of the gas is allowed to flow into the nose without being actually inhaled.

In cases of vasomotor rhinitis the treatment should be given for five to ten minutes up each nostril every morning. In hay fever this should be done throughout the hay-fever season, and in addition the gas should be used as often as necessary during the day immediately an attack threatens and continued until it passes off. For paroxysmal sneezing and nose-running the treatment should also be given immediately an attack begins. In cases of asthma which begin with an attack of this kind, the gas may prevent the dyspnœa from developing.

The treatment has proved of great value in a considerable number of cases of hay fever and other forms of paroxysmal rhinorrhœa and sneezing. It has often a remarkable effect in vasomotor rhinitis, and is sometimes useful even when the condition is in part due to infection, though I do not suppose that it can exert any antiseptic action. Exactly how it works I do not know, but the action is certainly a direct one on the nasal mucous membrane and is quite distinct from that produced by the inhalation of carbon dioxide on the respiratory centre.

Medinal for insomnia.—A greal deal of nonsense has been written recently about the danger of the barbiturates. When properly given they are not dangerous at all, and even when taken regularly for years they never give rise to addiction. A frequent cause of chronic ill-health is the exhaustion which follows insomnia. It is obvious that the ideal treatment for insomnia is to remove the cause, but in many cases this is impossible, or the removal can be only gradually accomplished. Many physical diseases and still more psychoneuroses are associated with insomnia, which greatly increases the suffering they cause. Though both require treatment, it is generally possible to control the insomnia at once by means of drugs, whereas the associated physical or psychological condition may require prolonged treatment for its relief. In my experience medinal is the most useful of all drugs for insomnia. In most cases five grains with ten grains of aspirin given every night prove sufficient, but, when necessary, the dose can be gradually increased up to ten grains. More than ten grains should rarely be given, except for a few days in acute cases of complete absence of sleep, such as sometimes follows a severe mental shock. Whatever dose is found to be effective should be given every night. In many cases the patient can be trained to sleep again by reducing the dose of medinal by one grain at a time at regular intervals, the dose of aspirin remaining unaltered. If at the end of three or four weeks aspirin alone is required, it will not be long before this also can be discontinued. In long-standing cases the medinal may have to be taken permanently; it is then sometimes found that it need only be given on alternate nights, the patient sleeping well for two nights after taking a single dose.

In the exceptional cases in which medinal is not effective, or is effective but makes the patient feel unwell instead of refreshed the following morning or produces vertigo, inco-ordination, irritation of the skin or a rash, other drugs must be tried. I have found a large dose of chloral hydrate and bromide most often effective under these circumstances.

Veronal in sea- and air-sickness.—Some years ago Dr. Ryle told me that the Danish navy use 2½ grains each of veronal and phenacetin as a preventative of sea-sickness. Since then I have found this combination very useful both for sea- and air-sickness. It is as effective as chloretone, and it does not so often cause unpleasant after-effects. One cachet with this dose should be taken half an hour before starting, and another on starting if the sea is rough. Further doses can, if necessary, be taken at intervals of not less than six hours.

Bromide and luminal in epilepsy.—The dose of bromide and luminal in epilepsy should be sufficiently large to control the attacks as completely as possible without causing any unpleasant symptoms. This object is most frequently attained by the use of the two drugs together, though sometimes it is necessary to use one only or the two alternately. An accurate record of attacks generally shows that a certain degree of periodicity exists; if the time of administration of the drugs is adjusted to this periodicity the

total dosage can often be greatly reduced. Thus, if attacks are only nocturnal, a single large dose on going to bed should suffice, whereas if no attacks occur in the night it is useless to give an evening dose. Sometimes attacks occur only in the late afternoon; the bromide or luminal should then be given in a single dose after lunch. Sometimes in women attacks occur only or mainly during the periods; the drugs should then be given only before and during the periods, or in larger doses at these times. It is a good plan to give a larger dose of luminal and no bromide at all for one week every three months, as bromides given continuously for long periods are likely to cause chronic gastritis. I recently saw a man of 60 who was thought to have a carcinoma of the stomach on account of severe digestive symptoms, anorexia and loss of weight and strength associated with the constant presence of occult blood in his stools. He had been taking bromide for 15 years on account of epilepsy, which had developed during the war, but his general health and digestion had only begun to deteriorate three months before I saw him. He was carefully dieted and luminal was substituted for bromide with the result that, his symptoms and the occult blood disappeared within a fortnight.

Luminal in migraine and Menière's syndrome.—Migraine depends upon a constitutional and often inherited over-excitability of an unknown centre in the brain, which is set into activity by a variety of factors. Part of the treatment is to damp down the excessive excitability of this centre, and no drug can compare with luminal for the purpose. Fortunately in the large majority of cases the attacks begin on waking in the morning, so that it is only necessary to give a single dose at night, but this should be sufficient to prevent them when all the known exciting causes have been removed, but insufficient to cause sleepiness, vertigo or inco-ordination on waking in the morning. If attacks occur also in the day a smaller dose may be required on waking and perhaps in the afternoon. Beginning with $\frac{3}{4}$ gr., the dose is increased every night or two by $\frac{1}{4}$ gr. until 3 gr. are given, or less if unpleasant symptoms occur with a smaller dose. These can sometimes be prevented by giving the luminal at 9 p.m. instead of on going to bed, and a feeling of heaviness on waking can be prevented by giving 4 to 6 gr. of caffeine citrate first thing in the morning; the caffeine neutralises the unpleasant after-effects of the luminal and may itself help to prevent the onset of an attack. As the tendency to migraine is increased by exhaustion and many of the patients sleep badly, the luminal has the additional effect of controlling the insomnia and thereby relieving the exhaustion. It should be given every night without intermission until the patient has had no attack for two years; during the last six months the dose should be gradually reduced. In cases in which attacks occur only or mainly during menstruation, the drug should be given only just before and during the periods, with a smaller dose during the month if inter-menstrual attacks sometimes occur.

Luminal is in my experience the only drug which has any effect in preventing the attacks in Menière's syndrome. As they generally occur quite irregularly, the dose has to be repeated three times a day; again the maximal dose which produces no unpleasant symptoms must be found by experiment.

Hyoscine, stramonium and pilocarpine in paralysis agitans and post-encephalitic parkinsonism.—About 20 years ago I found that the dose of hyoscine which could be safely given to patients with paralysis agitans could be greatly increased by combining it with pilocarpine, which prevented dryness of the mouth and paralysis of accommodation without in any way diminishing the calming effect on the tremor, which had been discovered about 1895 by Erb. It was consequently possible in most cases to give gr. 1/50 hyoscine hydrobromide, in many cases gr. 1/20, and occasionally as much as gr. 1/8 three or four times a day, without any troublesome dryness of the mouth, paralysis of accommodation, or other unpleasant symptom being produced. I had many patients who were thus enabled to take large doses continuously for several years. Though the tremor was not often completely controlled, it was almost invariably rendered much less trying, the effect being considerably greater than with the maximal doses of hyoscine given by itself in the usual way.

In view of the close resemblance of some of the post-encephalitic disorders to paralysis agitans it was natural that hyoscine should be tried for the former. Quite unexpectedly it was found to have little or no effect on the tremor, which is generally a much less prominent symptom than in paralysis agitans, but to exert a favourable effect on the rigidity, whereas the rigidity of paralysis agitans remains completely unaffected by the drug, even when given in large doses with pilocarpine in the manner I have described. Observations carried out by Hall with belladonna and by Carmichael and Green with stramonium, showed that these drugs are even more effective than hyoscine.

It occurred to me in 1928 that a combination of pilocarpine with hyoscine or stramonium might make it possible to give a larger dose of the latter

drugs and thereby obtain a more favourable effect in post-encephalitic parkinsonism as well as in paralysis agitans. The result has been most satisfactory. In every case improvement has occurred, and in some the whole life of the patient has been made infinitely more happy as a result of overcoming a good deal of the muscular rigidity. One patient who had been completely bedridden for over a year was able to get about again within a fortnight, and some who were completely unable to dress, wash or feed themselves and were dependent upon others for everything, can now carry out all the essential activities of life without help.

I begin by giving the patient m. 10 of tincture of stramonium in ½ oz. of water on waking after lunch and after tea. If the stiffness causes disturbed nights by preventing the patient from turning over in bed, an extra dose is given before going to sleep. One drachm is added to each of the three doses of the mixture on alternate days, so that in eight days the total dose is doubled. The gradual increase in the dose is continued until the patient begins to complain of unpleasant dryness of the mouth or paralysis of accommodation. Pilocarpine nitrate gr. 1/10 is then added to the latest dose of stramonium, and the mixture is prescribed in ½ oz. of water. One drachm is again added to each of the three doses of the mixture on alternate days until sufficient relief is obtained or slight toxic symptoms appear—the most common being paralysis of accommodation—in spite of the added pilocarpine. By this time the dose is generally at least m. 60 of tincture of stramonium with perhaps 2/5 gr. of pilocarpine nitrate. The exact proportion of pilocarpine and stramonium may require modification. Finally, a prescription is given for the full dose of stramonium and pilocarpine in a single half-ounce of water.

Post-encephalitic diurnal lethargy and nocturnal wakefulness.—I should like also to refer to the treatment of two sequels of encephalitis, which may occur together or separately, and which may be associated with parkinsonism or be present in its absence. These are somnolence in the day and wakefulness at night. I have found no difficulty in overcoming the former by means of caffeine or ephedrine or both, and the latter by means of luminal and medinal. It is remarkable how small a dose may prove effective. A woman of 51 would fall asleep at any hour of the day, even after breakfast, and might remain asleep most of the day, but slept very little during the night ever since an attack of encephalitis eight years before. She did not sleep at all for 24 hours after being given gr. ¼ of ephedrine hydrobromide at 8 a.m. When, however, she was also given medinal grs. 3 on going to bed, she slept all night and kept awake all day.

Theocin in ascites and obesity.—Theocin is a drug of great value, which is much too little known. Nearly 30 years ago I made some investigations which showed that it differed from all other diuretics in stimulating the kidneys to excrete salt as well as water. It is, therefore, very useful when combined with digitalis in cardiac œdema, though it is contra-indicated in the œdema of nephritis. On the other hand, I have found it much more efficient than the modern mercurial preparations, such as salyrgan, in the treatment of ascites, and it has none of the toxic action of the latter on the liver and alimentary tract, which greatly reduce their value. It should be combined with a salt-free diet, and its effect is sometimes increased by giving calcium or ammonium chloride at the same time. Four grains of theocin sodium acetate with 40 grains of ammonium chloride are given three times a day. If after a time its diuretic action wanes, the theocin should be replaced by 10 grains of diuretin for a few days.

Theocin is also useful in the treatment of obesity, as in most cases the excess of weight is in part due to the retention of fluid. Very fat patients can almost invariably be made to lose five pounds a week by strict dieting with the addition of theocin, though the rapid fall in weight is likely to wane after the first month or two when all the accumulated fluid has been lost; it is then useless to continue with the theocin.

NOTE.—In my reference to petrolagar in the first part of this lecture published in the *Gazette* of March 31st, I should like to make it clear that petrolagar is supplied "plain" with no addition, and "alkaline" with 8 per cent. magnesium hydrate, in addition to the form containing phenolphthalein.

Notice

Guy's Hospital Ladies' Association

The Ladies' Association is holding its Annual Jumble Sale on Saturday, April 28th, at 2 p.m., so may we please have any clothing, household goods, etc., you may discard in the spring cleaning. We can sell almost anything, and the proceeds go towards the endowment of the beds and cots in "Victoria," our Maternity Ward.

Kindly address parcels and goods :—

The Jumble Sale,
Guy's Hospital, S.E.1,

and write your name clearly on an outside label, as we like to acknowledge your kindness.

Food, plants, vegetables and flowers also sell well; these should arrive on the morning of the 28th.

Offers of help with sorting and selling will be gratefully received by (Mrs.) Emily Davies-Colley, Hon. Secretary, 10, Devonshire Place, W.1.

Rupture of Uterus after Four Hours of Apparently Normal Labour

By B. Campbell Gowan, Esq., M.R.C.S.Eng., L.R.C.P., L.S.A.Lond.

THE following seems worthy of being recorded if only to show that even in the most desperate case there may still be a chance of saving a valuable life.

Mrs. ——, *æt.* 39, has borne seven children in 10 years, all living and healthy. Her eighth confinement was due about the 2nd of September, 1892. On Friday, the 16th September, at 8 a.m., labour commenced. I was summoned at 8.45 and reached her bedside at 9 o'clock. The pains were strong and regular, recurring at intervals of six or seven minutes.

Presentation vertex, left occipito-anterior. Membranes intact, os dilated to size of a crown piece. In front of the anterior fontanelle the prolapsed cord could be felt in a bunch.

Bowels opened freely in early morning. She passed water (about 10 oz.) at my suggestion. Pulse 80, regular and strong, cheeks and lips rosy.

At 10 a.m. the os was still dilating well, membranes still intact. Shifted cord towards right iliac synchondrosis.

At 10.40 membranes ruptured, giving vent to a thick, dark green "liquor," evidently containing a large quantity of meconium. The cord, pulsating vigorously, presented at the vulva. I returned it to the brim, but at the next pain it came down again. The abdominal muscles being atrophied and absolutely useless did not warrant placing the patient in the genu pectoral position, and, all attempts at reduction failing, I contented myself with keeping the cord warm and as much out of the way of pressure as possible. But the pulsations grew weaker, and finally ceased shortly before delivery. At 11.45, when the head was almost on the perineum, the patient gave a sharp cry and complained of intense pain all over the abdomen, and said that something had "given way."

Examination showed that the head had receded to the brim, and a great gush of bright arterial blood covered my arm. Patient became collapsed, gasping for breath, pulseless (at the wrist), while the face was blanched and the pupils were widely dilated.

The windows and doors were thrown open and the pillows removed from under the head. I sent for my assistant, who was close at hand, and in the meantime prepared forceps, and also drew off about 3 ounces of urine by catheter, and then, while my assistant steadied the uterus, I applied the forceps. Although these locked immediately, I had to remove and re-apply the upper blade, as, on examination, I found the cord included in their grasp.

Attaching the axis tractor I delivered the head without any difficulty or injury to the soft parts. There was no "caput," and the head was barely marked by the blades. The shoulders gave some trouble, the right getting hitched up under the pubis.

As the patient's condition continued alarming, although the uterus seemed fairly contracted, I proceeded to detach the placenta, which was very large, firmly adherent and attached just above the internal os. There was a tremendous gush of blood, and I thought the patient was gone. On re-introducing my hand to clear out clots and check hæmorrhage I discovered a large longitudinal rent starting from the margin of the placental attachment at the internal os on the right (upper) side.

Through this rent my right hand passed into the abdominal cavity until I could feel it with my left at a point between the umbilicus and the right anterior iliac spine, nothing but the attenuated abdominal wall intervening. I shall never forget the sensation, nor that of feeling a loop of small intestine fall into the uterine cavity as the organ contracted and I withdrew my hand. I pushed and kept this loop back until a further uterine contraction expelled my hand and, with it, another copious gush of blood.

As the patient was still alive, though quite pulseless (at the wrist), 1 dr. of liquor secalis ammon. and half an ounce of brandy (neat) was administered. This was gulped down and retained.

Deeming the case utterly hopeless, the husband and children were allowed to take leave of the poor woman, who was too far gone to realise the situation. In a short while, however, the pulse became perceptible at the wrist, and, the uterus remaining fairly contracted, I determined to stick to the case to the bitter end.

She was lying on her left side on a feather bed with the hips well raised and the head low, and in this position I ordered that she should lie absolutely motionless, and while my assistant kept watch on the uterus, I administered frequent small doses of brandy and ammoniated ergot, pouring it into her mouth through a bent silver tube.

The pulse soon improved, first to 160, then to 140, and the pupils became less widely dilated, though the extremities were cold and clammy and the body generally appeared shrunken and shrivelled.

While holding out, to the husband, no hope of ultimate recovery, I obtained in a few hours the services of two trained nurses. Small quantities of food (milk, white of egg and brandy) were given every few minutes, with ice *ad lib.* to quench the intolerable thirst, and, as the patient showed no desire to sleep, there was little difficulty in administering the nourishment through a funnel-ended tube.

As much cleansing as was feasible without disturbing the patient was done with a 1-in-20 solution of carbolic and she was made as comfortable as possible under the circumstances.

The first night was absolutely sleepless, and she complained bitterly of being kept in one position (on her left side), but I declined to allow her to alter it, as, owing to the relaxed condition of the abdominal walls, the intestines, in this position, tended to gravitate away from the uterine rent. And in this position she lay motionless for 60 hours.

Late on Sunday night we rolled her gently over on to her back while changing her bed linen, and though quite numb on the left side, she soon recovered sensation and lost all pain.

On the fourth day the lochia ceased and the temperature began to rise. This, I discovered, was due to the gross stupidity of one of the nurses, who mistook the overflow of a distended bladder for the normal emptying of that viscus.

On drawing off 24 ounces of urine, the pent up and now fœtid lochial discharge escaped freely. On the eighth day a small piece of placenta came away, and on subsequent days a few small clots. From the fourth day she was douched every six hours (alternately with sanitas and 1-in-60 carbolic), until the discharge ceased to be offensive, when the injections were reduced to two daily.

From first to last she had no rigor, nor had she any peritonitis or great abdominal pain, and the tongue remained clean and moist. After a turpentine enema the abdomen became soft and flat.

In none of her pregnancies has she ever had any secretion of milk, so that we escaped this difficulty; but, on the other hand, she was unable to take milk as food, every attempt to administer it, even peptonised, ended in vomiting, and she was fed on white of egg, beef juice, beef tea and brandy.

On the tenth day she developed severe phlebitis of the superficial (varicose) veins of both thighs from the saphenous opening to the knee joint. No œdema of the legs or feet, and under fomentations and belladonna this complication subsided.

An attack of cystitis yielded to the administration of 15 grs. of salol daily, and a tendency to diarrhœa to a few 10-minim doses of tincture of red gum.

My partner, Mr. Newton Cornish, who kindly saw her with me on the fourth and many subsequent days, suggested perchloride of iron, but the first dose produced so much headache that she refused to take any more, though her profound anæmia placed her sadly in need of it.

On the 27th day the temperature became normal and the appetite almost voracious. A large hæmatocele on the left iliac fossa had become almost entirely absorbed.

On the 38th day she was able to get up for an hour and a half, and she was now able to move about her room without any pain or discomfort.

REMARKS

The rupture in this case occurred exactly three hours and 45 minutes after the first labour pain, and she was delivered well within the four hours.

There were no premonitory symptoms of impending danger, and, with the exception of the prolapsed funis, the labour appeared to be absolutely normal. I had attended her in her last confinement, which was slow, but uneventful. She had never required any instrumental aid.

I attribute the causes of the disaster to the following:—

1. Rapidly recurring pregnancies (eight in 11 years), producing degeneration of the uterine and abdominal muscles. These last were practically useless.

2. Abnormally large fœtus (14 days overdue, female weighing 10 lb. 1 oz.) from a small mother, 4 ft. 11 in. high and weighing only 7 stone 3 lb.

3. Implantation of placenta in lower zone of uterus, occupying its posterior half and leaving the remaining half to perform the whole of the expansion necessary for the passage of this large fœtus, unsupported by the atrophied abdominal muscles.

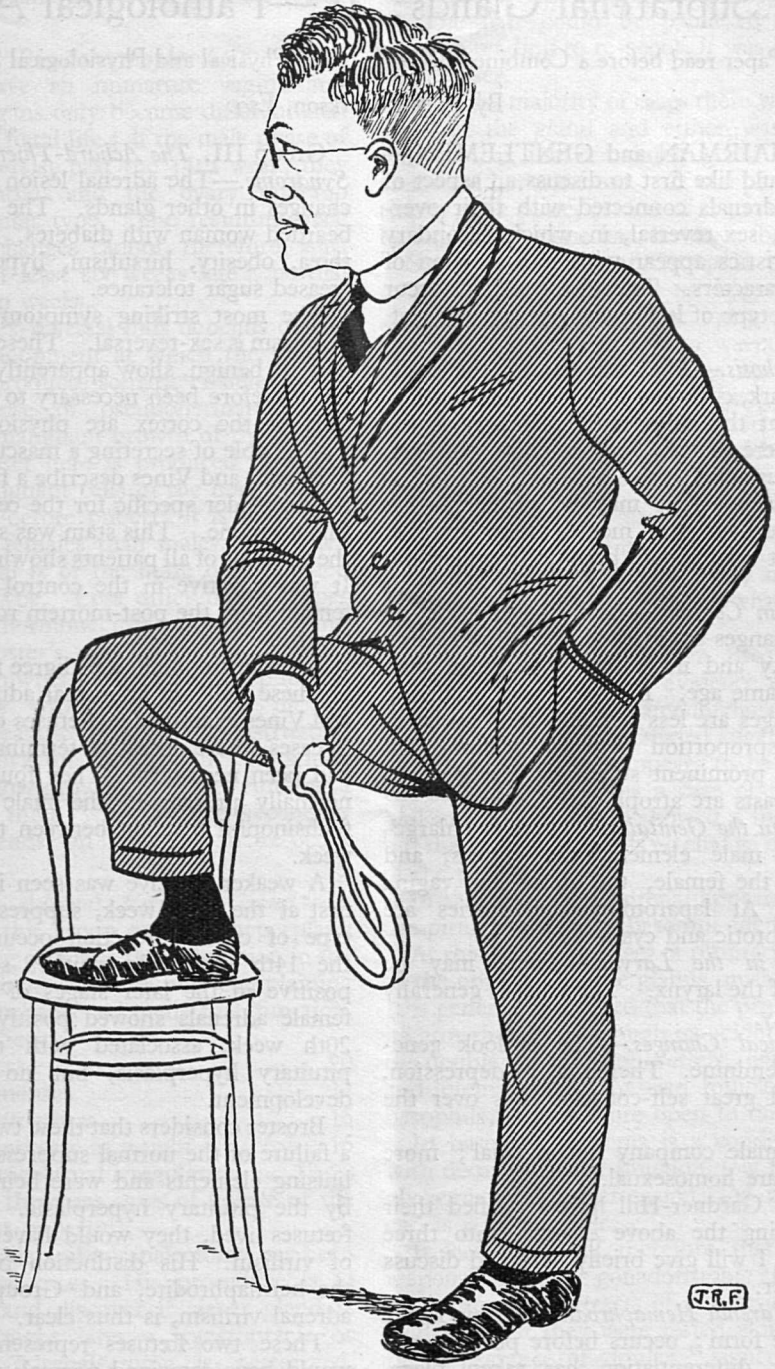
4. Struggling (noticed by the mother) of the asphyxiated fœtus.

5. Prolapse of funis.

Incidentally I may mention that I had been requested by the husband not to use instruments if I could possibly avoid doing so.

Of one thing I am certain, and that is that the happy termination of this case would not have ensued had I not followed my invariable rule of being prepared for any emergency and of adopting every reasonable antiseptic precaution as to my hands, instruments and clothes.

Note.—The patient died not many years ago. She enjoyed good health for over 35 years.



G. F. G.

Propter laborem ad Victoriam venit

The Suprarenal Glands: II.—Pathological Aspects

A Paper read before a Combined Meeting of the Physical and Physiological Societies

By P. W. Clarkson, Esq.

MR. CHAIRMAN and GENTLEMEN,—I should like first to discuss an aspect of the adrenals connected with their over-action, that is, sex-reversal, in which secondary male characteristics appear with retrogression of the female characters. The changes that occur depend on the type of lesion and the age at onset, and briefly are :—

1. *Hypertrichosis.*—The hair is of the male type—crisp, dark, curly—and of male distribution. For the patient the chief cause of worry is the face, where there may be mutton-chop whiskers, beard and moustache.

2. *Amenorrhœa.*—This may be primary—that is, never occur—or the menses may start at puberty and at a later date become irregular and finally cease.

3. *Changes in Contour.*—If the onset is before puberty the changes are marked, the subject being of more stocky and masculine appearance than a boy of the same age. In those cases occurring later, the changes are less striking, and consist of a lessened disproportion between pectoral and pelvic girdles, prominent superciliary ridges and jaw. The breasts are atrophic or absent.

4. *Changes in the Genitalia.*—There is enlargement of the male element, the clitoris, and diminution of the female, the uterus and vagina are infantile. At laparotomy the ovaries are found to be fibrotic and cystic.

5. *Changes in the Larynx.*—There may be enlargement of the larynx. The voice is generally deep and husky.

6. *Physiological Changes.*—The outlook generally remains feminine. There may be depression, irritability and great self-consciousness over the hirsutes.

Some find male company uncongenial; more rarely, others are homosexual.

Broster and Gardner-Hill have classified their patients showing the above changes into three groups, which I will give briefly here and discuss more fully later.

Group I. *Adrenal Hemaphrodism.*—This is the most complete form; occurs before puberty and secondary sex differentiation has taken place. The body changes are marked and the amenorrhœa primary.

Group II. *Adrenal Virilism.*—Here the onset is after puberty, and the changes are less marked. There is hypertrichosis and secondary amenorrhœa.

Group III. *The Achard-Thiers or Pluriglandular Syndrome.*—The adrenal lesion is associated with changes in other glands. The patient is the fat, bearded woman with diabetes. There is amenorrhœa, obesity, hirsutism, hypertension and increased sugar tolerance.

The most striking symptom of some cortical neoplasm is sex-reversal. These neoplasms, which may be benign, show apparently normal cells. It has therefore been necessary to assume that some cells of the cortex are physiologically different and capable of secreting a masculinising hormone.

Broster and Vines describe a fuchsin stain which they consider specific for the cells responsible for this hormone. This stain was strongly positive in the adrenals of all patients showing clinical virilism. It was negative in the control glands; male or female from the post-mortem room and operating theatre.

In order to obtain a pedigree for the appearance of these cells in abnormal adult glands, Broster and Vines examined 60 fœtuses of all ages obtained in cases where operative termination of pregnancy had been necessary. They found that there was normally present in the male adrenal a strong fuchsinophil reaction between the 12th and 18th week.

A weaker positive was seen in female adrenals first at the 11th week, suppression of this male type of cortical reaction occurring normally at the 14th week. In neither sex was the stain positive in the later stages of pregnancy. Two female adrenals showed positive stains after the 20th week, associated with this was anterior pituitary hyperplasia, but no abnormal sexual development.

Broster considers that these two adrenals showed a failure of the normal suppression of the masculinising elements and were being kept in control by the pituitary hyperplasia. Thus, had these fœtuses lived, they would have been latent cases of virilism. His distinction between Group I, the hermaphrodite, and Group II, those with adrenal virilism, is thus clear.

These two fœtuses represent Group II, and would have remained normal while the pituitary control held; at a period of endocrine stress such as puberty it might be expected to break and adrenal virilism result.

On the other hand, Group I, in whom the changes occur any time before puberty, represent

an extreme type of early unbalance between cortex and controlling pituitary, resulting in pseudohermaphrodism.

Group I. *The Pseudohermaphrodites.*—These people usually have an immature vagina and uterus. These organs only become differentiated at 12-16th week of fœtal life; if the male phase of the fœtal cortex persist past the 14th week, they will remain infantile, and the ovary undergo reversion to testicular type. The resulting male organs and male changes cannot, therefore, start developing until at least six weeks late; normal testes start at seven weeks.

The degree of sex-reversal thus depends on the stage of fœtal development at which the masculinising hormone produces somatic changes.

A frequent cause of pseudohermaphrodism before puberty is malignant growth of the cortex. The endocrine upset here is produced by overproduction by malignant cells of the hormone.

When it occurs before puberty it is five times more common in females than males, and when causing sex-reversal is of the more differentiated adeno-carcinoma type. Less differentiated types do not secrete the hormone, cause no virilism, and are negative to Broster's stain.

In malignant growths occurring after puberty, complete recovery with disappearance of the hirsutes and reappearance of normal menstruation has followed removal of the growth. In adults it is a relatively slow-growing tumour, running a course of about three years before secondary extension, and tends on removal to re-occur retroperitoneally.

Group II. *The Adrenal Virilism Group.*—In Broster's cases of this group essential hyperplasia of the masculinising cells was the only lesion in the glands. The patients came to him complaining of hirsutism, disturbance of menstrual function, and occasionally obesity.

Average age of case	....	20
,, ,,	menses	14
,, ,,	hirsutism.....	15
,, ,,	increase in weight	16
,, ,,	menstrual irregularity	18-20

He considers that these are cases of failure of the pituitary control at puberty.

In treatment, unilateral adrenalectomy has been performed on nine cases. His procedure is to do a laparotomy and discover if either gland is enlarged. A fortnight later a transthoracic or subdiaphragmatic adrenalectomy is performed. All adrenals so removed were strongly positive to his stain.

The results are: (1) None of his patients has been any the worse for the operation; (2) "there has been a gratifying and unexpected return of menstrual function," to use his own words. At least four of the nine again had normal periods. (3) The hair could be painlessly plucked out. Though tending to re-occur, it was less masculine and sparser.

As in the majority of cases there was no enlargement of the gland and either was removed, it follows that the remaining gland was secreting abnormal hormone too. If compensatory hypertrophy took place, return of the symptoms might be expected; none has, however, been observed.

Seven more cases of Group II were subjected to laparotomy alone, but no hypertrophy of the glands was found and the symptoms were not considered severe enough to warrant the second operation. A further 25 cases were seen, which were considered to belong to this group.

In the treatment of this condition the application of X-rays has been tried, but with what effect I do not know. Broster has no experience of their use in this condition.

Group III.—Patients belonging to this pluriglandular group appear to be very similar to those patients described by Cushing who had basophil adenoma of the pituitary.

In the one case on whom Broster performed adrenalectomy, the only evidence of sex-reversal was hypertrichosis and amenorrhœa. There was, in addition, obesity, increased sugar tolerance and hypertension; there appears to be no reason for not supposing she was a case of pituitary basophilism. The adrenal showed a fuchsin reaction, but there was afterwards no change in the condition of the patient.

In this group the adrenal appears secondary to the pituitary lesion, a basophil adenoma.

At this point the effect of pituitary in its relation to the other endocrine glands must be mentioned. It is generally accepted that the pituitary produces its growth-effects through its acidophil cells; that the double gonadotrophic effect, that is, maturation and luteinisation of ovarian follicles is due to its basophils, is now more open to doubt.

In basophil adenoma is a condition associated with decay of sexual function, low B.M.R., hyperglycæmia and hypertension, for which basophil excess is responsible.

It seems unlikely, therefore, that these cells are responsible for the gonadotrophic effects produced by appropriate extracts of pituitary. Indeed, the evidence that they were rested almost entirely on the appearance of similar "signet-ring" shaped cells in the pituitaries of castrated animals. Extracts of such glands showed increased potency in producing the twofold gonadotrophic effect.

It appears that the acidophils are also responsible for these effects. In support of this Bishop

has shown in the urine of two cases of acidophil excess—one a giant, the other an acromegalic—the presence of a substance capable of producing the Aschheim-Zondek reaction I.

Broster's view that masculinization is brought about by the breakdown of pituitary control in maintaining the balance between cortex of adrenal and ovary has been given—breakdown of which causing sex-reversal.

Woollard, summarising the present state of knowledge of endocrine balance, agrees with the idea of pituitary as the master gland, and draws the following conclusions :—

The pituitary is indifferent to sex. It exercises its effects purely in bringing to maturation, differentiation and full endocrine activity the other glands—gonad, adrenal, thyroid and parathyroid. It can be shown experimentally that failure of development of these glands with subsequent lack of sexual development and hypothyroidism follows removal of the pituitary.

The ovum receives its initial bias from the chromosome distribution. This is weak, and the embryo subsequently undergoes an indifferent phase. There is then a masculine phase in both sexes, represented in the female by a medullary mass of mesonephros, the rete ovarii.

The testis in the male proceeds to maturation; in the female the rete ovarii retrogresses and development of the ovary then proceeds from the cortex of the genital ridge and is later than that of the testis.. The testis is, therefore, monosexual and ovary bisexual. This is demonstrated by :—

1. Appearance in nature of free-martins where the ovary is suppressed by the earlier differentiating testis and the potential female twin is converted into a sterile male.

2. Appearance of male characters in a hen following single ovariectomy, due to hypertrophy in the remaining gonad of the rete ovarii—the testicular remnant.

3. Experimental production of sex-reversal in embryo by transplanting genital ridges to chorio-allantoic vesicle.

4. Masculinisation seen in the rare tumours of the ovary arising in the rete ovarii—arrhenoblastomata.

The cortex of the adrenal arises just lateral to the genital ridge, which lies on the medial border of the mesonephros; more laterally lie the Wolffian and Mullerian ducts. The rete ovarii is formed on the cervical portion of the ridge.

In the male, all these mesonephric structures, except the Mullerian duct, develop further; in the female all, except the Mullerian duct, are present only as vestiges.

A generalisation can, therefore, be made that sex-reversal occurring in the female is due to the abnormal activity of mesonephric derivatives which are normally present in adrenal and ovary.

I shall now turn to insufficiencies of the adrenal, which were first described by Addison of this hospital, and bear his name.

Little had been added to our knowledge of this condition until, in 1930, Swingle and Pfiffner prepared a cortical extract which opened up possibilities of specific treatment, which had previously been absent.

Before proceeding further, I shall give a short description of the main symptoms of Addison's disease, or chronic adrenal insufficiency.

Pigmentation.—Typically it is "a dingy or smoky appearance or various tints or shades of deep amber or chestnut-brown" affecting skin and buccal mucous membranes and particularly the upper and lower surfaces of the tongue. The patient may first notice that the summer tan fails to disappear. It is often the first symptom, and may be present for years, such cases tending to run a more benign course.

Some definite form of pigmentation is considered an indispensable sign upon which to base the diagnosis. During the course of treatment with extract and salt, Brodel has studied selected areas by paintings. Contrary to clinical impressions, no dramatic changes were observed, but there was a gradual increase in the amount of pink skin, followed by a lightening of the brown.

Hypotension.—Most patients at some time show a systolic pressure below 90 mg. Hg. There is a rapid fall on assuming the erect posture, due to :—

1. Decrease in pulse pressure.
2. Increase in pulse rate.
3. Syncope.

This, however, is seen in other chronic debilitating diseases.

Muscular weakness.—Asthenia and muscular weakness is generally a striking symptom. The patient is unable to carry on his work. Weakness and fatigability are next to pigmentation of prime importance in the diagnosis. Other symptoms may include numbness and tingling in the limbs, pain in the back and thighs, and a basal metabolic rate lowered by 20 per cent.

In contradistinction to Addison, Harrop has seen only one case in which there was anæmia.

Gastro-intestinal symptoms.—The appetite is poor and loss of weight marked; the patient has not, however, the emaciation and dry, hard skin seen in malignant disease. Harrop gives an average loss of weight at 30 lb.

Vomiting and diarrhœa are grave symptoms, characterising the acute relapses. Nausea may be

the first symptom to warn the observer that a crisis is impending.

Hypoglycæmia.—A low fasting blood sugar is often found in the remissions, and always in the exacerbations, which resemble the reactions of the hypoglycæmic.

Patients are extremely sensitive to insulin and show marked hypoglycæmia after the injection of 2 units. This reaction is unreliable as a diagnostic test, as it is also seen in cases of untreated myxœdema and pituitary dysfunction.

Ætiology of the disease.—Addison's description of adrenal insufficiency was the stimulus which led Brown-Sequard in 1857 to perform bilateral adrenalectomy on a number of different animals. Death invariably followed within 36 hours; this work was the foundation of the view that the adrenals were essential to life. The real cause of death in all these cases was surgical shock, as with proper technique dogs should survive seven days.

Further experiments by Biedl, in which death followed removal of the inter-renal body of elasmobranch and others in which animals survived cauterisation of the medulla, pointed to the cortex as being the part of the gland essential to life. Harrop points out that the necessity of chromeffin tissue to life has never been put to test, as the medulla represents only a portion of that tissue found in the body.

Following the extraction by Schafer, 30 years ago, of an extract of the medulla of such peculiar and striking properties as adrenalin, the tendency was to attribute to medullary failure the main symptoms of Addison's disease. In 1928, however, Brenner published a series of 42 cases: 18 showed cortical atrophy alone, 8 absence of cortex, 8 atrophy of both medulla and cortex, and 8 absence of one or both glands. These cases had in life shown the signs and symptoms of Addison's disease.

The view that cortical insufficiency alone was responsible for the condition appeared finally settled when, following partially successful attempts by Henderson, Stewart and Rogoff, Swingle and Pfiffner prepared an extract of the cortex which could maintain the lives of bilaterally adrenalectomised dogs indefinitely.

Recently, however, Harrop and co-workers have shown that, if the potency of thin slices of cortex, of medulla and of whole beef gland be compared, then the assay values are as follows:—

1. For thin slices of outside cortex, 3 dog units per c.c.
2. For dissected cortex prepared in the manner of Swingle and Pfiffner, 8 dog units per c.c.
3. For medulla alone, 8 dog units per c.c.
4. For whole gland, up to 40 dog units per c.c.

For these findings two explanations are possible: (1) that the cortical hormone is stored in the secondary zone of the cortex and medulla; (2) that the substance elaborated by the cortex is activated in the medulla.

The second view is supported by Cleghorn, who found that extracts of the inter-renal body of elasmobranchs were without effect in maintaining adrenalectomised animals. It finds further support from the blood supply of the gland, part of which breaks up in the cortex into capillaries which drain into the sinuses of the medulla.

Harrop points out that cortical extracts, while relieving the symptoms of the crisis—nausea, vomiting, asthenia and shock—have little or no effect on the symptoms of the remissions—pigmentation, hypotension and hypoglycæmia. He considers that the symptoms of the remission are due to medullary failure, whilst cortical failure is responsible for the crises.

Bittorf has divided Addison's disease into:—

1. *Primary or Essential.*—In these cases there is atrophy of the cortex and they form about 20 per cent. of the whole. The atrophy has ascribed to both toxic necrosis and congenital abnormality. The histological picture is that of destruction of the cortical cells, with collapse of the stroma, proceeding outwards from reticularis to glomerulosa, with areas of regeneration at the periphery. Therapeutic importance is attached to these regenerating areas; they have been compared to the marked hypertrophy seen in the remaining gland after unilateral adrenalectomy.

2. *Secondary Addison's disease.*—The remaining 80 per cent. are almost entirely caused by tuberculous destruction of the gland; very rarely, pressure from neighbouring tumours may give rise to symptoms. Patients will often give a positive Mantoux test of 1 in 10,000, and occasionally show X-ray evidence of calcification of the gland.

Tuberculosis of the adrenal is a rare condition, having about the same frequency as tuberculosis of the skin, and is almost always associated with tuberculous disease elsewhere in the body.

The disease first affects the medulla, extending later to involve the cortex. Weesil has reported a case which in life had no symptoms, but who at post-mortem was found to have medulla alone entirely destroyed, with, significantly, hyperplasia of the chromaffin tissue elsewhere in the body. Survival is possible as long as one-quarter to one-eighth of the cortex remains.

Extract and salt therapy.—In 1831, Swingle and Pfiffner prepared a lipide fraction of dissected cortex which, when injected with olive oil, maintained adrenalectomised cats for 35 days; the

controls died in 7½ days. Death resulted from sepsis at the site of injection, and subsequent failure of absorption of extract.

A later aqueous solution was prepared which maintained cats indefinitely. This extract was unsuitable for intravenous use in restoring cats in acute insufficiency, as its high adrenalin content gave rise to toxic symptoms.

An adrenalin-free extract was prepared by passing the solution through permuttit, and was capable of reviving and maintaining dogs in whom coma had supervened due to extract withdrawal.

On withdrawal of the extract from dogs, Harrop has pointed out how the condition is essentially one of shock, and is identical with that of patients in acute insufficiency.

It is ushered in by anorexia (in dogs death followed three days after the first refusal of food); there is increasing and profound weakness, nausea and vomiting of distressing severity; lowered body temperature, lowered blood pressure, occasionally diarrhœa, and finally circulatory collapse.

The blood picture, as in other conditions of shock, is that of hæmoconcentration with :—

1. Increase in the non-protein nitrogen, especially the urea portion, which is the earliest blood change, and may rise to about 100 mg. per cent.

2. Fall in the plasma Na ions. Loeb has shown that there is a drop in crises of about 30 milli-equivalents. This loss takes place in the urine, and is accompanied by a fall in the chlorine ions and in the plasma base.

3. Fall in the plasma volume of 35 to 40 per cent. The main loss is, however, sustained by the extra-vascular tissues.

4. Rise in the O_2 capacity of the blood by 2.5 per cent. There is a fall of the basal O_2 of the body consumption of 20 per cent.

5. Rise in the blood protein and red blood cell count. There is a 10 per cent. loss of body weight, and at post-mortem the tissues are elastic and lacking fluid, and there is malnutrition of all internal organs.

Harrop and co-workers using extract prepared in the above manner have, during the last 2½ years, treated 13 cases of undoubted Addison's disease. Seven of these have terminated fatally; of these three had advanced tuberculosis elsewhere and one had what subsequent experience showed to be insufficient amounts of extract.

They were given from 1 c.c. of extract a day during remissions, up to 56 c.c. in single doses intravenously in the crises, and died as a result of hæmoconcentration, dehydration and circulatory collapse. In these fatal cases the average duration of symptoms before treatment was four years, and the duration of treatment six months, during which there was no increase in weight and an increasing tendency for crises to occur. None survived more than six crises. In the six so far successful cases four had been ill for less than a year when they began treatment, and on it showed increased weight and improved general condition.

Though receiving regular daily injections, there was little change in the hypotension or pigmentation. There have never been any toxic symptoms following even the largest intravenous doses.

Harrop concludes that the treatment of Addison's disease with cortical extract has not justified the high hopes held out for it when it was prepared three years ago. He states : (1) that it is of vital importance in the treatment of the crisis, and that it has been definitely shown that, without accessory factors, when given in large enough quantities, it can restore the patient from coma. As the condition is one of shock, it is of importance to supplement this treatment with warmth and fluids. (2) That its value in remissions should be regarded with greater reserve; it has little or no effect on the nutrition, pigmentation or hypotension.

His seven successful cases show a duration of over two years and are still living; untreated patients at the Mayo Clinic had an average life of 16.5 months after the onset symptoms.

Loeb was the first to show the fall in Na ions which occurred in the urine during the crisis, but he found it impossible to maintain adrenalectomised animals on saline injections alone. He has, however, reported a case of a woman with anorexia, weakness, pigmentation, a blood pressure of 90/60 falling to 65/40, hæmoconcentration and severe vomiting. This patient, given 5 grs. of NaCl in capsules by mouth and 9.5 grs. per rectum per day was, on the fourth day, up and eating, with a blood pressure 120/80 and a plasma Na which had returned to the normal 138 milli-equivalents. The subsequent history is of interest, as on diet containing extra 7 grs. of NaCl for six months she gained weight and performed her usual work. Then on account of a little œdema she was placed on a low salt diet. A crisis again occurred, and she was restored by NaCl alone—200 c.c. of saline per rectum every four hours.

Wienstein, Harrop, Rogoff and others in America have confirmed the effect of salt. Harrop has four cases who, on 6 grs. of salt a day, have shown complete remission of formerly persistent nausea and vomiting.

Care is exercised in giving the salt to avoid causing nausea, and it is usually given in capsules after meals in such quantities as do not produce œdema.

A low salt diet has been used with success as a diagnostic measure in obscure cases of pigmenta-

tion. Precautions are taken to have ready adequate supplies of potent extract should the result be positive, and a crisis supervene.

In conclusion, the great similarity between Addisonian crises and other conditions of shock may be stressed; whether the loss of fluid and salt has occurred in emesis, as high intestinal obstruction, diarrhœa as in cholera, into the tissue spaces as in burns, or by uncontrolled excretion by the kidney as in the Addisonian crisis.

Acute adrenal insufficiency.—Before concluding, I would like to mention this rare cause of sudden death. It has been described chiefly in France, but there have been some cases reported in the English literature. Four types are described :—

Type I.—This is characterised by acute epigastric pain, vomiting, tenderness in the loins and shock. The clinical picture resembles acute pancreatitis, and death supervenes within 2 to 3 days.

Type II.—Here convulsions and coma, simulating cerebral hæmorrhage, precede death.

Type III.—There is here rapid and profound asthenia, terminating fatally within three days.

Type IV.—There is sudden death without preceding symptoms.

At post-mortem, thrombosis or hæmorrhage into the gland is generally found. There may, however, be tuberculous destruction, though no previous symptoms have been present.

Boyd describes a case of type II in which a young soldier, able to perform vigorous work, collapsed and was dead in $2\frac{1}{2}$ days. Four other cases of type II showed tuberculous disease of the gland; another showed an organising clot, though death occurred within 24 hours of the onset of symptoms.

Lavenson has reported a case of type I which at post-mortem showed thrombosis and hæmorrhagic necrosis.

This brief description of a very rare condition concludes my account of the pathological states of adrenal cortex, all of which are clinical rarities.

The Prevention and Treatment of Septic Socket

A Paper read before the Dental Society, Guy's Hospital, on February 26th, 1934,
by C. I. Hagger, Esq., L.D.S., R.C.S.

MR. CHAIRMAN and GENTLEMEN,—After recently observing the course of many cases of sepsis following extractions and minor operations in the mouth, I have come to the conclusion that the prevention of such a condition is vitally important to everyone who seriously studies his patients' welfare.

It is very nice to be able to perform a dramatic extraction of a lower third molar, but it makes the treatment more terrifying than the disease if the patient has to suffer for anything up to a fortnight afterwards with a septic socket. A septic socket arises as the result of a dry socket or the introduction of infection into the wound in one way or another.

Opinions differ as to the cause of a dry socket, but the most reasonable one is that it is due to excessive bruising of the bone during extraction causing occlusion of the blood vessels, such as occurs where the roots are bulbous, or, in fact, with any difficult extraction. The opinion that a traumatic bite predisposes to a dry socket amounts to the same thing, as the sclerosis following the traumatic bite results in the increased bruising of the alveolus during extraction. This is exemplified by the fact that dry socket is particularly common after the extraction of upper canines that have been withstanding a heavy bite. The theory that dry sockets are caused by the adrenalin content of the anæsthetic is generally discredited, though it may be an accessory factor.

The preventive measures suggested by the apparent cause are :—

1. The avoidance of unnecessary bruising. This is a matter of experience, the principle being that each action in extraction must be purposeful and must achieve something, as against aimlessly "waggling" the tooth till it falls out. It is probably for this reason that dry socket is more frequent with local anæsthesia, when there is no hurry, than with nitrous oxide anæsthesia, when there is a time limit.

2. Where bruising has occurred, the removal of some of the bruised bone is advisable.

3. In obviously difficult cases the use of the surgical method of extraction.

Septic sockets caused by the introduction of infection may be the patient's or the operator's fault. The use of a mouth-wash should be advised, its main function being to keep the rest of the mouth reasonably clean while the socket heals; also the introduction of dirty fingers and handkerchiefs to the mouth must be deprecated.

Scaling and gum treatment must always be carried out where necessary before extractions, if the incidence of septic sockets is to be a minimum, the object being two-fold :—

1. To reduce general sepsis present in the mouth.

2. To avoid pushing infected tartar into the socket.

An aseptic technique is absolutely essential for all extraction operations. It is so easy to become negligent about asepsis, but experience convinces one that a rigorous technique in this direction is the surest guarantee of successful healing. This is even more true in minor oral surgery, such as the removal of roots, when a sterile table and other details of aseptic technique are essential. All this may seem obvious, but so often it is not carried out properly, with consequent bad results.

Dental surgery has been slow to follow the lead of general surgery in placing more reliance on the defensive powers of the body than on the mere destructive powers of chemical antiseptics. Thus I want to bring to your notice the prophylactic use of glycerine following extractions, as a means of preventing septic sockets. Most antiseptics act more powerfully on the tissue cells than they do on the bacteria, thereby lowering the resistance of the part against infection rather than increasing it. The action of glycerine, however, is different, its usefulness being chiefly due to its hygroscopic properties. Thus the lymph is drawn by it from the neighbouring vessels into the wound, and with the lymph the bacteria and toxins in the recesses of the walls of the wound. The leucocytes so attracted to the part are able to destroy the organisms present.

Glycerine is antiseptic in that it mechanically hinders the growth of organisms, whereas is has no harmful action on the tissue cells. It increases the drainage and induces the necessary bleeding. Compton's experiments proved that different organisms are affected to different degrees by glycerine, streptococcus and gonococcus being the most adversely affected. The technique necessitates the following requirements :—

1. A sterile Dappen glass.
2. Sterile glycerine.
3. A sterile cement-liquid dropper with a curved end.

As soon after the removal of the tooth as possible pack off the mouth with cotton wool, and by means of the dropper flood the socket with glycerine. The longer the undiluted glycerine stays in contact with the wound the better. The saliva should be kept away for two or three minutes at least, when patient is allowed to empty the mouth, but not to rinse for another five minutes, and then sparingly. In severe cases the glycerine can be renewed and the mouth packed off for 10 to 15 minutes.

The cause of pain in a septic socket is osteitis of the socket wall, and, once started, it is a difficult condition to treat. Winter's paste, Dentalone, and many other proprietary prescriptions all have a temporary analgesic effect, which is by no means satisfactory, as it usually wears off by the evening and the patient has a bad night.

The object of the treatment seems to be to create the conditions most favourable for the fighting forces of the body to overcome the infection. Thus good drainage is necessary by daily syringing with a hot, mild antiseptic, the important thing being its mechanical action. Promotion of drainage with glycerine is again useful at this stage, and a mixture of glycerine and aspirin can be used with advantage. I have found it is better to leave a packing of B.I.P.P. on gauze in an open socket, rather than pastes or analgesics on cotton wool. Its effect is more lasting, and one is sure of the socket being free from food and debris till the next appointment.

The patient's general health must be considered. A purge is often necessary, and instructions should be given to drink plenty of water and to rest in the sun, if possible.

One has only to experience a case of severe septic socket, where the patient has days of trouble, pain and sleeplessness, despite your most skilful treatment, to realise that it is far better to prevent the condition by taking all possible precautions than to treat it.

Nursing News

A SALE OF WORK, Entertainment and Side-Shows will be held in the Nurses' Home on Saturday, April 21st, in aid of the Cosmo Bonsor Memorial Scholarship Fund. The sale will be opened at 3 p.m. by Miss Margaret Hogg, C.B.E.

There will be many attractions in the Nurses' Home, and by kind permission of the Governors, the Hospital will be open to visitors. Come and bring your friends.

The following nurses were successful in passing the Final State Examination in February last. Their names have been added to the State Register :—

E. M. Bromley
D. M. Bingham
N. E. Chick
G. A. Close
M. Hill
M. Hancock
M. Lomax
G. P. Massey
E. M. Marshall
W. C. Noye
A. C. O'Riorden
K. H. Oswald

D. V. Heasslegrave
M. Jackson
E. M. Jenkinson
B. Lambert
G. Leyland
E. M. Sambrook
K. Sunderland
M. H. Taylor
C. A. Wheeler
G. V. Williams

AFFILIATED TRAINING

With the Cancer Hospital, Fulham.

L. C. Eldridge
J. Jenkins
B. E. Morgan

Sport

Rugby

Guy's v. Old Cranleighans

AT Thames Ditton, on Saturday, March 21st, the Old Boys snatched a victory in the last minute of the game by a placed goal and 2 tries (11 points) to 2 penalty goals and a try (9 points).

Both sides were well below full strength, and in a disappointing game Guy's should have won with ease, but in the final minutes the Old Boys staged a splendid rally, which won them the day.

With one or two exceptions the tackling by the Hospital outsides was terribly weak, and the try which the home side obtained at the end was simply presented to them without opposition.

During the first half play was very scrappy and uninteresting. Beynon gave the Old Boys the lead with an unconverted try, but just before the interval Guy's equalised as the result of a penalty goal taken by Hogbin.

After the change of ends the Hospital were undoubtedly the superior side, and the forwards made many fine raids. During one of these attacks Hogbin scored an unconverted try, and a little later added another penalty. Near the end Reynolds scored a try for the Old Cranleighans, and then Glover ran through the defence for a try behind the posts, which Reynolds converted.

Team.—E. C. Sharp; G. J. Rees, P. C. Alexander, J. E. Giesen, I. McD. Stewart; D. I. Chapman, A. G. Heberlein; H. H. Crabb, C. S. Darke, I. G. Robin, R. A. P. Hogbin, A. R. Clarke, T. Morgan, T. A. Hale-Monro, J. L. Harrington.

Guy's v. Aberavon

ON Saturday, April 7th, Guy's visited Aberavon and, after a most enjoyable game, were defeated by a placed goal and 3 tries (14 points) to nil.

The Hospital are always assured of a warm welcome whenever they visit Aberavon, and on this occasion the officials and spectators could not have given Guy's a better reception. It was a pity that Guy's was so weakly represented, but the reserves played such excellent football that the game was much closer than the score indicates.

Guy's kicked off against the wind, and a passing movement carried them to their opponents' goal-line, when they were penalised, and Bassett sent them back with a magnificent kick to touch. From the line-out the home backs secured, and Thomas was all but over when Morgan brought off a splendid tackle and saved.

Darke and Robin then headed a good forward rush, but when the Hospital backs started passing Peacock dropped his pass and Owen set his threes going. Avery cross-kicked to Bassett, but Hamilton had him covered and carried the ball into touch.

Stewart was next prominent with a corkscrew run, and a delightful round of passing ended in Hamilton being tackled by Francis when he was in full flight for the line. When Guy's appeared to be on the point of scoring, Roberts intercepted, and eventually Banfield broke through and Vickery ran in for a good try, which Avery failed to convert.

It was a splendid open game, and several excellent passing movements followed. After Guy's had pressed Aberavon returned to the attack, and from a line-out Avery gave to Jenkins, and the latter had no difficulty in scoring a try, which Avery converted.

The Hospital were rather hampered by the wind, and they found it difficult to make much progress against a very fine defence.

After the interval Guy's did much better, and the forwards obtained a greater share of the ball. For a time the Hospital pressed, but Aberavon rallied and a good forward rush was checked by Giesen, who sent them back to their 25. Both Stewart and Giesen made several attempts to get through, and only splendid tackling kept them out. Guy's kept hammering away, but, with De Gruchy misjudging the ball, Thomas snapped it up and ran half the length of the field, but Morgan brought off another fine tackle and saved. First Giesen and then Peacock made determined efforts to score, only to be brought down a few yards out.

A brief raid by the Aberavon forwards was easily checked, and then Hale-Monro obtained the ball in a line-out and dashed right up to the goal-posts before he was collared by Thomas.

The Hospital bombardment was magnificent, but they failed to cross the line. A great rally by Aberavon nearly led to another score when the whole of their back division carried out a brillian

passing movement, and the ball eventually reached Bassett, who raced down the touch-line, only to be pulled down by Morgan when attempting to side-step him. However, a little later Aberavon increased their lead when Banfield cross-kicked following a 30-yards' run by Griffiths, and Bassett gathered and scored in the corner.

After Guy's had been penned in their own 25 for a few minutes, they rallied following a scrum in mid-field, but Aberavon made another forward raid and eventually Bassett sent in Thomas for another unconverted try.

Team.—W. J. R. C. Morgan; C. E. M. De Gruchy, J. C. Peacock, J. E. Giesen, A. H. Hamilton; I. McD. Stewart, D. I. Chapman; P. H. Crampton, A. G. Heberlien, C. S. Darke, I. G. Robin, G. J. Van der Merwe, R. O. Yerbury, C. D. Malone, T. A. Hale-Monro.

Hospital Information, etc.

Correspondence

Guy's '89 Club

To the Editor of the GAZETTE

SIR,—We are holding our 38th Dinner at the Trocadero Restaurant on Wednesday, 9th May. Will you let me ask all members to make a point of attending?

Dr. B. Gore Reynolds will preside.

Yours, etc.,

GERALD S. HOVENDEN,
Hon. Sec.

Glebeholme,
Barnes, S.W.13.

Notice

Guy's Guild of Ex-Patients

The First Annual General Meeting of Guy's Guild of Ex-Patients was held in the Physiological Theatre on Wednesday, March 21st, Wing-Commander Sir Louis Greig, K.B.E., C.V.O., the President, being in the Chair.

The President welcomed the members and congratulated them on the first year's working, during which over 1,100 members were enrolled. The Matron in a charming speech expressed her warm appreciation of the work the Guild had carried out in renovating the Surgical Couches and providing additional Bed Tables for the Wards.

Pass List

UNIVERSITY OF LONDON.
SECOND EXAMINATION FOR MEDICAL DEGREES.
PART I.

R. H. Bhanji
W. E. W. Bridger
G. B. Collyer
R. V. Coxon
J. T. Davis
P. G. Epps
W. Fine
G. N. L. Godber
M. A. Imray
C. Phillips
H. D. Smith
R. D. Blachford
C. N. Brown
R. M. Corker
T. B. Davies
A. M. Edwards
F. E. Falconer
J. B. Franklin
S. Green
C. R. Morgan
A. T. M. Roberts
R. A. R. Topping

PART II.

H. W. H. Bedford
P. M. Davies
J. D. Ebsworth
S. Garnjana-Goonchorn
P. B. Hanbury
A. R. Leask
B. G. A. Lilwall
H. A. McDonald
W. B. Parker
A. A. Shein
S. I. Williams
E. R. Bowes
V. Drosso
D. L. V. Fraser
D. Graham Brown
G. L. Humphreys
M. Levy
A. E. Loden
A. D. Milne
A. C. Ricks
L. C. Thomson
M. R. Woods

SOCIETY OF APOTHECARIES OF LONDON.
FINAL EXAMINATION.
March, 1934.

Surgery.
*J. L. Freer.

Medicine.
*R. Frankling
*B. C. M. Palmer

Forensic Medicine.
*B. C. M. Palmer.

* Have now completed the Examination

Papers by Guy's Men

Maurice Campbell and S. S. Suzman. Congenital complete heart-block; an account of eight cases. *Amer. Heart J.*, 1934, ix, 304.

J. Lewin Payne. Problems of æsthetics in connection with artificial denture. *Brit. Dent. Jour.*, 1934, lvi, 282.

F. Dawson Gratrix. On avoiding dry-socket. *Brit. Jour. Dent. Sc.*, 1934, p. 1.

A. Ralph Thompson. Subsequent history of a case after per-urethral prostatic resection. *Proc. Roy. Soc. Med.*, 1934, xxvii, 557; Sect. Urology, p. 13.

Arthur Bulleid. Practical bacteriology for the dental practitioner. *B.D.J.*, 1934, lvi, 321.

Archibald D. Marston. Notes on the use and technique of general anæsthesia in dental surgery, with special reference to Evipan. *B.D.J.*, 1934, lvi, 327.

Appointment

J. F. H. Stallman, Hon. Consulting Orthopædic Surgeon to the Lydney District Hospital.

Births

SMALLBONE.—On April 5th, 1934, at 230, North Street, Romford, to Jean (née Mann), wife of Eric G. Smallbone—a son.

PITT-PAYNE.—On 4th April, 1934, at Greta Nursing Home, Bromley, to Mabel (née Larcombe), wife of Leonard Pitt-Payne—a son.

EDS. { G. L. B. T.
D. P. K.

GUY'S HOSPITAL GAZETTE

A Journal of Medicine, Surgery, Dentistry and Hospital News.

PUBLISHED FORTNIGHTLY.

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PASSIM

BOOKS are the bane of the medical student's life, whether it be their perusal or selection. The lash of the impending examination goads him to read them; the stimulus over, he consigns them to the shelf with a sigh of relief, and sets out to gather his own experience. Perhaps this is as it should be, but no one will deny the value of a few well-tried works of reference. Nobody can help a man to read a book, but, until he has had some experience, a little advice in his choice will save him time and money. Every Spring the *Gazette* makes its annual attempt to set forth the merits of the more popular works, and this number is largely devoted to a consideration of books.

THE eructations of the Hospital chimney have long caused annoyance to those in its neighbourhood. Issuing from the bowels of the Works Department, it belches forth a sooty sublimate of coal and hospital refuse which besmirches the linen and lingerie of our inhabitants.

The experts are of the opinion that the excessive smoke is due to the type of jet used in cooling the fire-bars, and are to experiment with a new pattern. As the furnaces, once lit, burn for about three months, the improvement cannot be brought about at once, or the Hospital would be deprived of its hot water. Those concerned, particularly in the Nurses' Home and the Dental and Pathological Departments, will be pleased to hear that steps are being taken in the matter.

THOSE who have, in moments of exhilaration, projected pats of butter at the ceiling of the Dressers' Room, will learn with interest that this haven of delight has at last been redecorated. In the past the *decor* has been reminiscent of a railway waiting-room, and we have followed the stages in the disintegration of the furniture. We note that the new colour scheme is cheerful, if garish, and samples of material germinating in the Front Surgery are to bloom in the form of curtains. It is also said that new furniture is to be provided, turning this traditional resort into a veritable home from home.

A SALE of Work was held in the Nurses' Home on the 21st of April, with a gratifying financial result. It was one of those rare occasions when the male section of the community are admitted to the sanctum, and the success which it made should stimulate the authorities to further sociabilities. We have always felt it a pity that social intercourse between the nursing and medical staffs is so infrequent; such breaks in the monastic lives of both parties broaden the outlook and show us that the art of light conversation is not yet dead. We shall be publishing a fuller report when the takings have been accurately estimated.

THE following appointments have been made, subject to the House Committee's approval :—

House Physicians—

To Dr. Hurst—I. G. Robin.

To Dr. Mutch—A. E. Jones.

House Surgeons—

To Mr. Hughes—E. C. Zorab.

To Mr. Bromley—R. J. Drummond.

Obstetric Residents—

To Mr. Chapple—F. R. Kilpatrick.

To Mr. McNair and Mr. Cook—B. McArdle.

Out-Patient Officers—

G. V. W. Doherty — L. G. Mackenzie

A. G. Johnson — S. H. Wass

Assistant House Surgeons—
To Mr. Ogilvie—J. M. McArthur.
To Mr. Doherty—D. P. King.
To Mr. Massie—J. E. Rowlands.
To Mr. Eckhoff—T. E. Howell.

House Surgeon in the Ear, Nose and Throat Dept.—
To Mr. Mollison—P. R. Wheatley.

House Physician in the Children's Dept.—
J. F. A. Forster.

House Physician in the Neurological and Dermatological Department—
C. A. Clarke.

Resident Anæsthetist—
R. L. Soper.

Obituary

ROBERT WILLIAM MAYSTON, M.D., M.R.C.P., L.R.C.P.

GUY'S men of the "Nineties" will learn with great regret of the death of Robert William Mayston, who passed away on April 4th, at Erith, after a long and wearying illness.

He entered Guy's in October, 1891, and was throughout his student days deservedly popular by reason of his camaraderie, his broadmindedness, and his never-failing cheerfulness. He took his M.B. Lond. in 1897 and his M.D. in 1899, was House Physician to "Freddie" Taylor, and subsequently, on leaving Guy's, was appointed House Physician at the Seamen's Hospital, Greenwich.

He started private practice in Erith, and was for many years Medical Officer to Vickers. He joined Dr. Murison in partnership, and during the years of the War, while his partner was on active service, he was responsible for the maintenance of a very large practice, the demands of which overstressed him seriously. A sharp attack of pneumonia and pleurisy initiated a period of declining health, which led to his retirement from practice about two years ago.

His kindliness, his broadmindedness, and his cheery personality endeared him to all who knew him, and the love which he inspired was graphically demonstrated by the very large gathering that attended his funeral. His death will leave a very large gap in the circle of those amongst whom he laboured so long and so strenuously.

Nurse's Heroism in the War

We reprint the following extract from the "Daily Telegraph."

Miss Frances Mary Plant, who has died in Guy's Hospital where she received her training as a nurse, became famous during the war for her devoted work among the Allied prisoners in East Africa, when she, too, was a prisoner of the Germans.

After 18 years' service in England and abroad, Miss Plant, who was 57 years of age, had looked forward to retirement in London, but she had been on pension only twenty days when she died of heart trouble.

"No nursing sister in East Africa was braver than Miss Plant," Mr. F. S. Joelson, editor of *East Africa*, said. Mr. Joelson was himself interned in the same camp as Miss Plant.

"She was one of the nurses who were imprisoned at the outbreak of war," he added, "and she worked like a slave looking after the Allied prisoners at the Tabora prison camp. Although she had to undergo the usual measure of abuse, she always stood up to the Germans and refused to be browbeaten."

A personal friend, Miss E. M. Cowell, of Northcote Road, Battersea, said: "At the outbreak of war Miss Plant was ordered to clear her hospital at Korogwe and was then marched under a German escort to camp, to which she was not allowed to take so much as a mosquito-net.

"For a year she never tasted a cup of tea, and, being changed from camp to camp, she marched scores of miles under the blazing sun."

On their release from the East African internment camps the civilian prisoners sent a memorial to the British Government asking that some recognition should be given to Miss Plant and another nurse.

She returned to England and became night sister at the British Red Cross Hospital at Downham, Norfolk. In 1918 she was back in East Africa as matron of the Dar-es-Salaam Hospital.

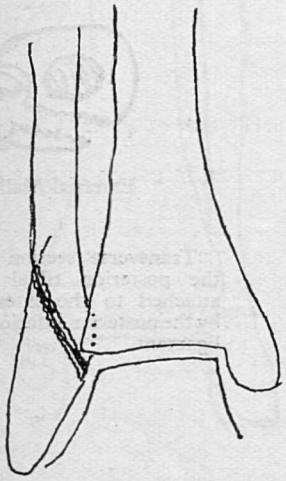
Miss Plant was awarded the M.B.E. in 1931 for her services to nursing.

External Rotation Fractures

By C. Lambrinudi, Esq.

FIRST DEGREE

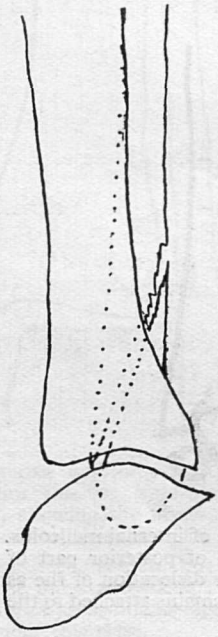
Diagram I
Front



A mere crack in the external malleolus, sometimes not seen in the X-ray in the antero-posterior view. No displacement of the astragalus.

Note.—The fracture runs into the inferior tibio-fibular joint.

Diagram II
Lateral



The fracture can always be seen in the lateral view and extends high up at the back.

SECOND DEGREE

Diagram III (Front)

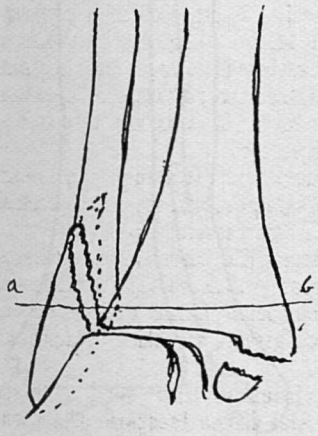


Diagram IV (Lateral)

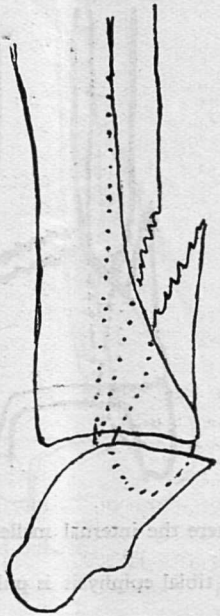


Diagram V
Anterior

Posterior

Transverse section through the line *a*—*b* in Diagram III, showing how the posterior inferior tibio-fibular ligament acts as a hinge when the lower fragment rotates outwards.

Note.—1. Fracture of internal malleolus.
2. Outward displacement and rotation of the astralagus.
3. Tilting backward of the lower fragment.
4. The fibula remains attached to the tibia at the inferior tibio-fibular joint.

EXTERNAL ROTATION FRACTURES.—*continued.*

THIRD DEGREE

Diagram VI
Front

Diagram VII
Lateral

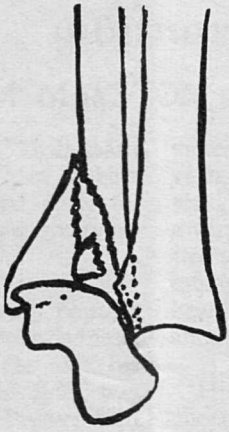


Diagram VIII
Front

External Malleolus

Transverse section to show how the posterior tibial fragment is attached to the external malleolus by the posterior inferior tibio-fibular ligament.

Note.—

1. Fracture of internal malleolus.
2. Fracture of posterior part of articular surface of tibia.
3. Posterior dislocation of the astragalus.
4. Fibula remains attached to the tibia by the anterior inferior tibio-fibular ligament.

Diagram IX

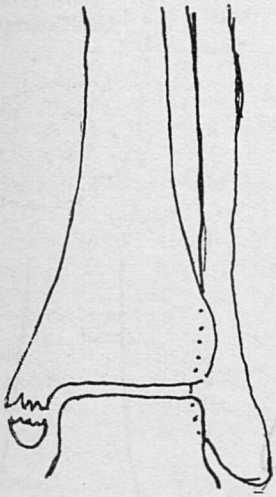
A variation of the second degree, where the internal malleolar fragment is represented by the whole of the lower end of the tibia.

Common in children when the lower tibial epiphysis is pulled off.

ABDUCTION FRACTURES

FIRST DEGREE

Diagram X

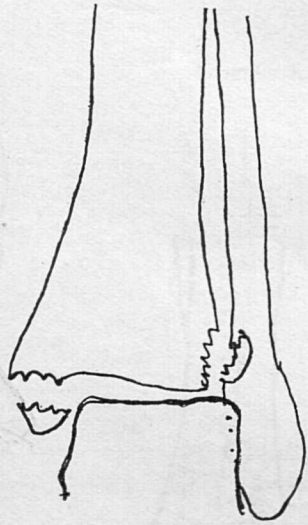


Fracture of internal malleolus. No displacement of astragalus.

In all these cases you must test for tenderness over the inferior tibio-fibular joint to make sure that it has not been sprained.

SECOND DEGREE

Diagram XI

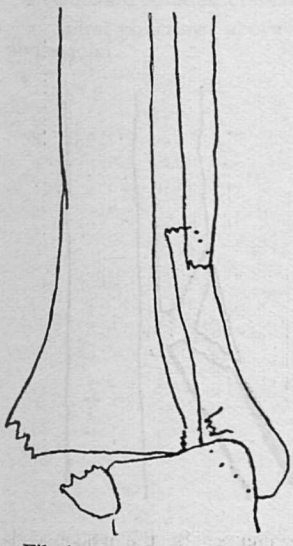


Fracture of internal malleolus and flake of bone to which the anterior inferior tibio-fibular ligament is attached torn off, allowing the fibula to separate from the tibia. Some outward displacement of the astragalus.

This variety, by itself, is rare, but must always be suspected when the internal malleolus is fractured. A sprain of the inferior tibia-fibular ligament without a fracture comes under this class.

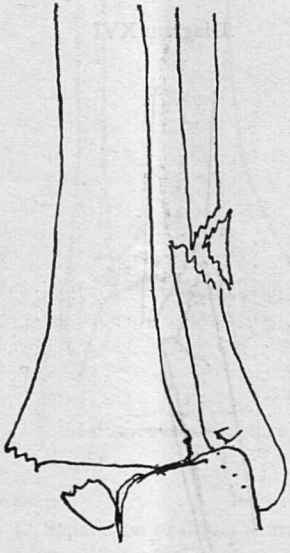
THIRD DEGREE

Diagram XII



Fibular fractured by bending force and marked outward displacement of the foot.

Diagram XIII



Variation of Third Degree

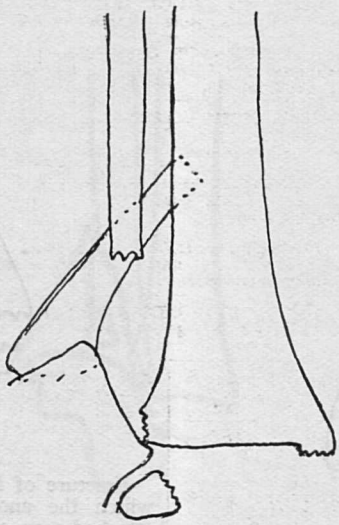
Diagram XIV

Lateral view showing backward dislocation of astragalus and posterior tibial fragment, as in third-degree external rotation fracture.

ABDUCTION FRACTURES.—*continued.*

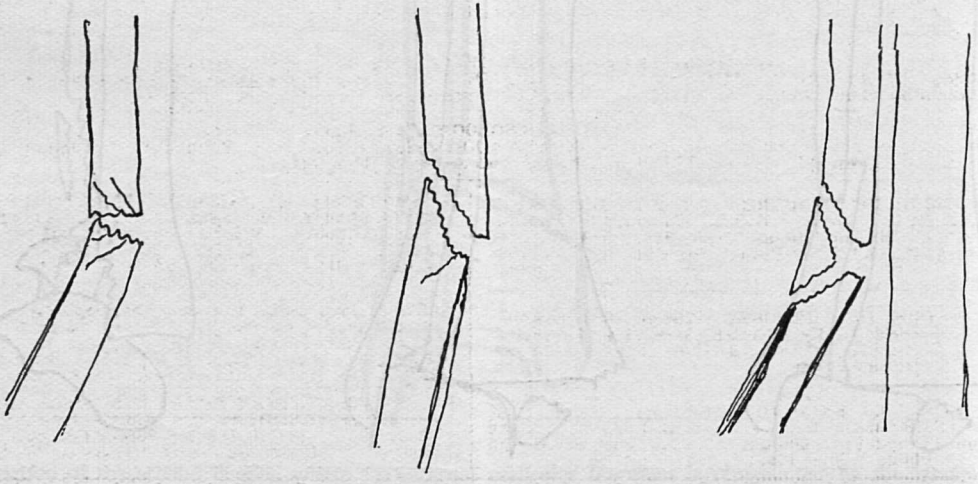
FOURTH DEGREE *or* DUPUYTREN'S FRACTURE

Diagram XV



MECHANISM OF BENDING OR COMPRESSION FRACTURE OF FIBULA

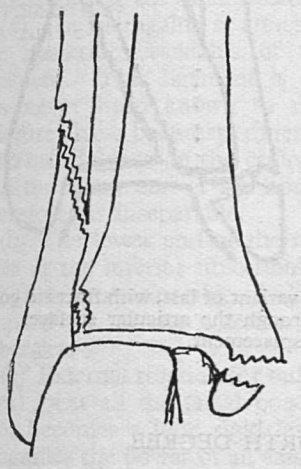
Diagram XVI



Transverse. Oblique. Comminuted, with apex of comminuted piece pointing towards tibia.

COMBINED ABDUCTION AND EXTERNAL ROTATION FRACTURES

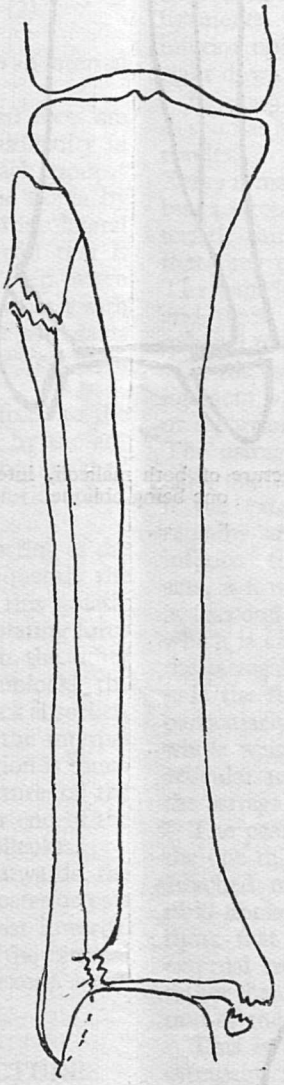
Diagram XVII



Note.—

1. Separation of fibula from tibia.
2. Outward rotation of astragalus.
3. Spiral fracture above tibio-fibular joint.

Diagram XVIII

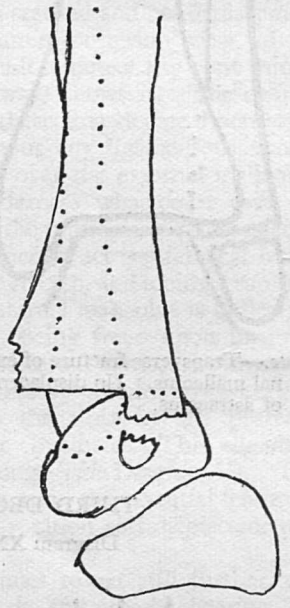


Maisoneuve's Fracture.

Note.—

1. Separation of fibula from tibia.
2. Outward rotation of astragalus.
3. Fracture of fibula near its fixed point, namely, its upper third.

Diagram XIX



Front View.

External malleolus is dislocated behind the tibia, and the whole foot is rotated outwards.

ADDUCTION FRACTURES

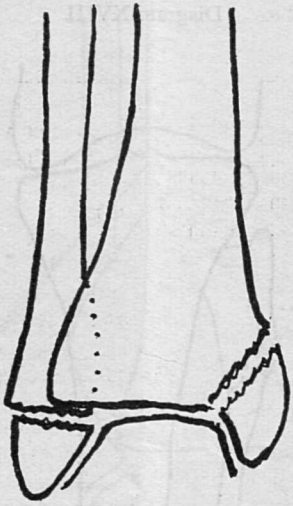
FIRST DEGREE

Diagram XX

Note.—Transverse fracture of external malleolus. No displacement of astragalus.

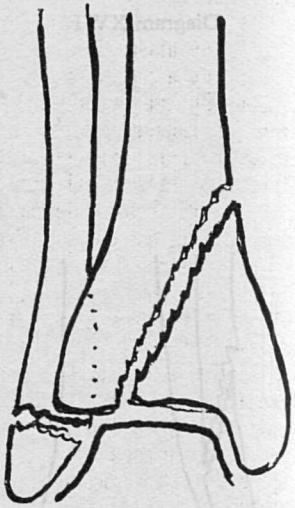
SECOND DEGREE

Diagram XXI



Fracture of both malleoli, internal one being oblique.

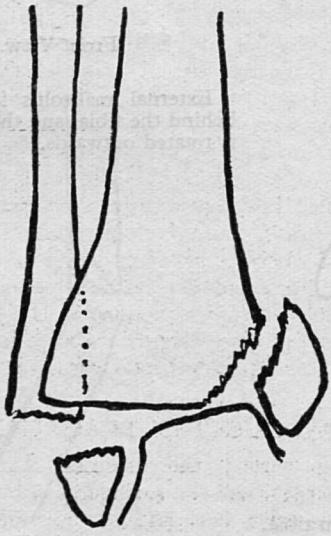
Diagram XXII



A variant of last, with fracture going through the articular surface. No displacement.

THIRD DEGREE

Diagram XXIII



Inward displacement of astragalus.

FOURTH DEGREE

Diagram XXIV

Whole of lower end of tibia fractured by violent adduction. Commonest in children.

INTRODUCTORY

THE preceding diagrams illustrate the variety of fractures commonly met with in the region of the ankle joint. These fractures are divided into four groups, according to the direction of the fracturing force :—

1. By external rotation of the foot.
2. By abduction of the foot.
3. By a combination of (1) and (2).
4. By adduction of the foot.

It will be noticed that fractures due to an internal rotation force are not included.

If certain anatomical and mechanical facts are borne in mind, there ought to be no difficulty in understanding the salient features of each group.

(*a*) The astragalus is attached to the fibula by the posterior fasciculus of the external lateral ligament. This ligament is so powerful that it has never been known to rupture, even when fractures have been experimentally produced with extreme violence on the cadaver. The astragalus and the lower end of the fibula can be regarded, therefore, as inseparable.

(*b*) The lower end of the fibula is fixed to the tibia at the inferior tibio-fibular joint, by the anterior and posterior tibio-fibular ligaments attached respectively to the anterior and posterior tibial tubercles.

(*c*) External rotation (or outward twisting of the foot) locks all the tarsal bones, consequently the foot becomes a long rigid lever, and this greatly magnifies the power of an externally rotating force acting on the external malleolus. On the other hand, inward twisting of the foot unlocks the tarsal joints so that the foot acts as a shock absorber, and very little force is expended on the internal malleolus itself. Violent internal rotation is much more likely to produce a crush fracture of the scaphoid and a fracture of the anterior end of the os calcis than to injure the internal malleolus.

(d) When the fore-foot is twisted outwards, the hind-foot, consisting of the heel and posterior part of the astragalus, must, of course, twist inwards, and this puts the posterior fasciculus of the external lateral ligament on the stretch, which exerts a pull on the external malleolus.

EXTERNAL ROTATION FRACTURES

These are by far the commonest, and are produced by a forcible outward twisting of the foot in relation to the leg, or an inward twisting of the leg when the foot is firm on the ground. The essential feature of the mechanism is that the astragalus rotates outwards on a vertical axis. As it does so, the anterior and outer part of the body impinges on the anterior edge of the external malleolus and the posterior end of the astragalus, as it rotates inwards, pulls on the posterior part of the external malleolus.

The external malleolus is thus subjected to two forces, a push in front and a pull behind, and a spiral fracture results. The spiral starts at a point three inches above the tip of the external malleolus and runs from behind forwards, downwards and inwards, passing through the inferior tibio-fibular ligaments. It usually terminates just below the inferior tibio-fibular joint, but sometimes extends right down to the tip of the malleolus.

In a first-degree fracture, the force ceases to act as soon as the bone is cracked and no displacement results. In the antero-posterior view of an X-ray it may be difficult to detect any bony injury, but a lateral view always shows it. The characteristic thing about these first-degree fractures is that they occur without any ligamentous sprain. The pain is localised over the external malleolus, and there is no tenderness whatsoever over the internal malleolus or the internal lateral ligament.

If the force continues to act the internal lateral ligament is put on the stretch, and it either ruptures or a portion of the internal malleolus is pulled off. The astragalus then, being freed upon its inner side, continues to rotate outwards, carrying with it the external malleolus, which, however, still remains attached to the tibia by the posterior inferior tibio-fibular ligament. This ligament acts, as it were, as a hinge (*vide* Diagram V). This is a second-degree fracture, the essential feature of which is an outward rotation and displacement of the astragalus.

If the force continues to act still further, and particularly if there is any weight bearing, the whole weight falls upon the posterior part of the articular surface of the tibia, which fractures and the astragalus is dislocated backwards.

The posterior tibial fragment varies in size, but the one thing that is constant about it is that it is attached to the fibula by the posterior inferior tibio-fibular ligament. Indeed, some authorities think that it is pulled off as the astragalus and external malleolus become displaced backwards, rather than crushed off. It is probably a combination of the two (*vide* Diagram VIII).

This is the third-degree fracture in which the astragalus is dislocated backwards.

ABDUCTION FRACTURES

In this variety the essential feature of the mechanism is that the astragalus rotates upon an antero-posterior axis, and the sole of the foot is directed outwards in relation to the leg. Catching the foot in a rut, with the toes pointing forwards and falling outwards, is the usual way of doing it.

The first structure to feel the strain of such an accident is the internal lateral ligament, which either ruptures or tears off a part of the internal malleolus. If the force ceases to act, there is no displacement of the astragalus, and the internal malleolar fracture is all that can be detected. This is a first-degree abduction fracture. But the astragalus is now freed on the inner side, so, if the force continues to act, the full brunt of it falls upon the inferior tibio-fibular joint. As a consequence, the anterior inferior tibio-fibular ligament ruptures or a piece of bone to which it is attached, *i.e.*, the anterior tibial tubercle, is torn off and the fibula becomes separated to a greater or less extent from the tibia. This is a second-degree fracture.

The fibula is now, however, detached from the tibia, so, if the force continues to act still further, the fibula will be subjected to a bending strain which causes it to break at its weakest point—about $3\frac{1}{2}$-4 inches above the tip of its malleolus—and the astragalus is displaced outwards. This is a third-degree fracture.

There are certain characteristic features about the fibula fracture. It is either transverse, slightly oblique, or comminuted, with the apex of the comminuted piece directed towards the tibia.

When a bone is bent the lamellæ on the convex side are stretched and those on the concave side are crushed, and radiating fissures result, as shown in Diagram XVI. It does not require much stretch of imagination to visualise what occurs.

There is yet what I prefer to call a fourth-degree fracture, which is the one that was originally described by Dupuytren and now bears his name. A great deal of misconception exists over the so-called Dupuytren fracture. It is often taught that in these cases the astragalus, acting as a wedge, separates the fibula from the tibia widely, and is driven up between them. It is doubtful whether this ever occurs. What happens is, that the fibula fractures as already described, and if there is an upward thrust such as might happen if there was some weight-bearing, then the astragalus, carrying with it the lower fragment of the fibula, is displaced not only outwards but upwards as well, giving the impression that the tibia and fibula are splayed out. It has already been pointed out that the astragalus is inseparable from the fibula, so it could not be pushed up independently between the two bones. (*Vide* Diagram XV.)

COMBINATION OF EXTERNAL ROTATION AND ABDUCTION FRACTURES

Probably the commonest cause of this group of fractures is when the foot is caught in a rut with the toes pointing outwards instead of forwards and the patient falls over on the outer side. To the abduction element there is thus added an external rotatory one.

The first two stages are the same as in the case of the abduction fractures, *i.e.*, firstly, a fracture of the internal malleolus, and, secondly, a separation of the fibula from the tibia, the effects of the rotating element come into play after the latter event. The fibula is then subjected to a twisting and not a bending force. As a result, one of three things can happen : either there is a spiral fracture of the fibula at its weakest point above the inferior tibio-fibular joint, or a fracture in its upper third near its most fixed point, or a dislocation of the external malleolus backwards.

ADDUCTION FRACTURES

These occur in the same way as the abduction fractures, except that the patient falls inwards instead of outwards, thus causing the astragalus to rotate inwards on an antero-posterior axis. The strain falls, firstly, upon the external lateral ligament, which ruptures or pulls off the external malleolus. If the force continues, the internal malleolus is subjected to a crushing force which produces an oblique fracture of the internal malleolus. This internal malleolar fragment varies in size and direction according to whether there is an upward thrust due to weight-bearing or not. If there is, then a large fragment will result, involving an area of the articular surface of the tibia. In the second-degree fracture there is no inward displacement of the astragalus, but in the third degree the astragalus is displaced inwards.

THE PRACTICAL VALUE OF THIS CLASSIFICATION

Such a classification as this is of more than mere academic interest ; it has a very definite practical value as well, for unless you are acquainted with the mechanism that has produced a particular fracture, you may overlook certain important points in their treatment.

For instance, in a second-degree abduction fracture and all those in which the fibula is fractured above the inferior tibio-fibular joint, it may happen that the outward displacement of the astragalus, which was an essential preliminary to the fracture of the fibula, may not be apparent when the case comes under your observation. The astragalus may have sprung back into normal position, bringing the lower fragment of the fibula with it, and you may not be able to see that there ever has been a separation of the fibula from the tibia. All you will see is a fracture of the fibula above the inferior tibio-fibular joint in good

alignment, and you may feel inclined to treat the injury lightly. Yet on careful palpation you will always detect a point of tenderness over the inferior tibio-fibular joint, indicating that it has been sprained. This joint is an important one, and if an injury to it is overlooked, serious disability is liable to follow, for it will be the site of constant pain. However good the alignment of the fibula may be, therefore, these cases ought always to be immobilised in plaster for three weeks, so as to give the inferior tibio-fibular ligaments time to heal.

Again, unless you are aware of the mechanism which produces a third degree external rotation fracture, you may be dismayed at the sight of the X-ray photograph of the dislocated astragalus and numerous apparently isolated fragments. But if you have a conception as to how this injury has occurred, you will realise that all the fragments, *i.e.*, the internal malleolus, the external malleolus, and the posterior tibial piece, all have their normal relation to the astragalus, for they are all directly or indirectly attached to it and have been carried back with it.

Therefore, when you treat the case, if you concentrate on securing a perfect reduction of the dislocated astragalus, there is a good chance that the fragments will automatically fall into good alignment. But it cannot be emphasised too strongly that this happy result can only occur if reduction is attempted as soon as possible after the accident, before blood-clots have had time to organise between the numerous fragments, and under general anæsthesia to insure complete relaxation. It must be looked upon as an urgent operation.

I claim no originality for this classification. If you think it is helpful, the credit is due to Ashurst, who wrote a paper on the subject in the *Archives of Surgery* (1922, iv, 51). The diagrams are, for the most part, copies from him, and I have quoted freely from the text. The reason why I give you his views is because, in my opinion, they are the most satisfactory yet formulated, and I hope I have been able to persuade you, too, that they have a great practical value.

Finally, I must exhort you not to waste your energies in trying to memorise all these fractures individually. That is not the way to learn. If I have succeeded in making myself clear, you will notice that the solution of the problem lies in the movements of the astragalus. Think only of what structures will be pulled on or pushed on by the various forced movements of this bone, get into the habit of trying to visualise what happens if the force suddenly ceases or continues to act, then you will find that the problem resolves itself into a matter of common sense.

From the Case-Books of a Parisian Consultant of the Sixteenth Century

By E. W. Goodall, Esq., M.D.

I.

OUR professional forefathers were voluminous writers. Many of them brought out huge and ponderous tomes, the contents of which were entirely their own work, equal in size and matter to the modern " systems " written by a dozen or more authorities. The more bulky of these were usually works which professed to expound all the medical, surgical and gynæcological knowledge and wisdom of the day, and they dealt with every illness to which the human frame is liable from the crown of the head to the sole of the foot, *De omnium a vertice ad plantam morborum signis*, etc., as more than one of those authors boasted on his title-page. But there was also a crowd of smaller works treating of various subjects. Amongst them were books entitled *Consilia*, *Centuriæ* (collections of a hundred cases), and the like. They gave histories of actual cases, common or rare, with detailed statements of the diagnosis and treatment, especially the latter, and often, too, a commentary. Besides these clinical reports many of the *Consilia* were essays on special diseases without reference to particular patients. These works were very popular with the profession, possibly because of the number of prescriptions that were to be found in them. In those days there were no medical journals, gazettes or transactions in which members of the profession could make known their experience.

Amongst the writers of *Libri Consiliorum* was Guillaume de Baillou, or, as he Latinised his name, Gulielmus Ballonius, who was born in Paris in 1538, lived in that city all his life, and died there in 1616. His father, Nicholas, was an architect in the service of Catherine de' Medici. Guillaume received, under the patronage of one of the most influential men in France, Andrew Guilliar, an excellent education in the University of Paris. For a few years he lectured on *litteræ humaniores* in the University. He then turned to medicine as a profession and, after graduating

as a doctor in that faculty, acquired in the course of time an extensive and lucrative practice, chiefly amongst the middle classes, for he declined a position at Court which was more than once offered him. He was thoroughly versed in classical as well as medical literature, and was held in high esteem by his colleagues of the Faculty of Medicine, in which he rose to the highest position attainable, namely, that of Dean.

Ballonius is remembered at the present time for his recognition of whooping cough, known to the Parisians of his day as *quinte* and never before described by a medical writer, for his revival of the Hippocratic doctrine of seasonal " constitutions," for his description of a case of laryngeal diphtheria, and for his writings on articular rheumatism, then a vaguely understood disease. He wrote, in Latin, as was the custom of the time, several books besides the *Consilia*, but only two of them have been translated into a modern language, the *Epidemiorum et Ephemeridum Libri Duo*, published in one volume, which were translated into French by Dr. Prosper Yvaren in 1858. A number of extracts from Baillou's works, mostly on surgical subjects, were rendered into French by Dr. Théophile Bonet and published in 1708.

The *Consilia Medicinalia* may be regarded as letters of advice written on behalf of individual patients, or, in a general way, concerning specified diseases. In the Index to the third volume they are referred to as " Medical Consultations." They were originally published in three volumes, in the third of which is included a work entitled " Examples (*paradigmata*) and Histories of Diseases worthy of Observation on account of their Rarity, etc." There are altogether 373 *Consilia*, eight special *Historiæ* (in Vol. II), and 220 *Paradigmata*.

To many of the *Consilia* are appended " annotations " on particular points, and pages of prescriptions. The length of the *Consilia* and *Historiæ* vary considerably, from one to 44 pages, the number allotted to what is really an essay on persons who suffer from calculi. Baillou begins this *Consilium* by stating that at that time no disease gave more trouble to the human race than calculi. The first of the *Historiæ* in Volume II occupies two pages only. It relates the case of a man who was suddenly seized with loss of speech, pain in the right side and intolerable headache. On this case there is a commentary of 54 pages, in which is discussed, line by line, the record of the case. To the commentary are added seven pages of annotations, so that 63 pages are devoted to this case alone. One of the *Consilia* is a dissertation on an aphorism of Hippocrates.

From a glance at the headings or at the first few lines of the various *Consilia* we can ascertain the sort of persons amongst whom Baillou's practice lay and the frequency of different diseases in Paris in the 16th century. In respect of the first we find that the patients ranged from noblemen, ambassadors, Privy Councillors, and highly-placed officials and members of their families to such humble folk as a barber, a steward, a cook, a gardener, an ostler and a porter. Some of these people were in the service of nobles. Most of the patients were of the well-to-do middle classes, professional, commercial and official families. Baillou was a very religious man ; he is said never to have missed a daily attendance at mass. Yet few members of the religious classes of society appear in the list of those about whom he was consulted : an abbess, a vicar, a nun, a monk and a priest (*sacrificus*), who, by the way, was the subject of a sequel of the " Spanish disease," a popular name for *lues venerea*.

The diseases with which the *Consilia* deal are of nearly every organ of the body, besides general disorders. There are many cases of fever, of pulmonary tuberculosis, of diseases of the eye, of tumours of various sorts, of headache, of calculi (vesical, renal and biliary), of venereal affections, of diseases of women, of melancholy and of hysteria ; also a few of wounds, for the physician of those days was consulted in surgical as well as in medical cases.

It does not appear from the *Consilia* for what exact purpose they were written. Many of them are headed, " On behalf of " such and such a patient or " Concerning " or " In reference to " such and such a disease. Presumably they were composed for the information of the patients' medical attendants and were sent to them. It is clear, indeed, from what he writes in *Cons.* III, xxix, that medical practitioners wrote to the consultants for their opinions. The case is that of the Lady Abbess of Gobelin, who was suffering from fever. He points out how handicapped the absent consultant is who is not face to face with the disease, as is the gladiator in the arena with his adversary. The consultant may advise a course of treatment, but the family physician must decide the details of its application. In one *Consilium* written on behalf of a gentleman suffering from headache Baillou complains of the meagre and indifferent account of the case which had been submitted to him by the patient's medical adviser. Only some half-dozen, however, of the *Consilia* are addressed directly to medical men, and they are named. Three of them were consultants like Baillou himself. There are three which are addressed straight to the patient without, apparently, the intervention of a medical practitioner. The very first *Consilium* of Book I is one

of these, but the patient was his patron, Andrew Guilliar, who, it is to be supposed, had consulted him on account of headache. One of the *Consilia*, headed, "On epileptic convulsions and the origins of apoplexy," is addressed to the Republic of Venice, which had evidently asked for a report, which Baillou furnishes, on the health of its ambassador in Paris. Three or four of the *Consilia* relate to patients who appear to have been seen by Baillou in conference with other consultants, and in one instance also with one of the surgeons to the King.

In many instances the name and position in life of the patient are divulged. The first *History* in Book II, referred to above, gives the name of the patient, who, Baillou states, was by repute *veneri indulgens*. In one or two cases he writes that he must refrain from mentioning the patient's name. Very few of the *Consilia* are dated.

I have stated that probably many of the *Consilia* were sent to medical men who had consulted Baillou on behalf of their patients. While this may be so, it is quite certain that Baillou kept copies of them for his own use. The words of one of the *Consilia* referred to above do not seem to have been written for the eye of the practitioner of whom he was complaining. Baillou, doubtless, in common with other doctors of the Faculty of Medicine in Paris, taught students, and these *Consilia* may be records of clinical lectures elaborated with a view to publication. We have, indeed, evidence that they had been brought to the knowledge of students before they were given to the profession at large. None of Baillou's works was published before his death, and the first to appear was the first book of the *Consilia*, in 1635. It was edited by Dr. Jacques Thévart, one of his grand-nephews, to whom he had left by will most of his books and manuscripts. In his dedication of the work to the Privy Councillor Bouthillier and in his address to the "benevolent reader" Thévart distinctly states that the book had long been expected by all and desired by many of the medical students—*philiatres* as they were called. Thévart, who in his time was a member of the Faculty at Paris, must, therefore, have made known the *Consilia* to the students, probably in the course of lectures. In those days the students were intimately familiar with Latin.

The *Liber Paradigmatum* deserves a word or two. As is stated on its title-page, it is a collection of records of rare cases which Baillou thought worthy of bringing together because he was of the opinion that they would be useful as examples of methods of treatment and as guides to prognosis. Most of the cases appear to have occurred in his own practice, but many are taken from the writings of other authors, ancient and of his own times. Baillou lived in a highly credulous age, and the medical profession was hardly less ready to lend a believing ear to marvellous stories than was the vulgar. Few of the *paradigmata* are related at length, and fewer still are rationally discussed. Two to a dozen lines suffice for the relation of most of them.

Baillou's *Libri Consiliorum, Paradigmatum* and *Epidemiorum et Ephemeridum* contain accounts of a number of interesting cases. He is, however, prone to leave the records incomplete, and to be not very precise in his descriptions. Scattered amongst these writings are many statements which express the opinions and thoughts of Baillou himself. I have culled a few of the most interesting of these cases and statements, which I now propose to relate. I shall, however, omit all references to cases of infectious diseases and statements concerning them, as I am dealing with them elsewhere.

(To be continued.)

East Anglia Guy's Dinner

AT the Royal Hotel, Norwich, on April 14th, 24 Guy's men from the Eastern Counties enjoyed an excellent dinner, with Dr. A. J. Cleveland in the Chair.

Many of the members gave interesting and amusing anecdotes of Guy's in the past, and the two guests, Dr. J. J. Conybeare and Mr. W. D. Doherty, gave an account of recent alterations and reforms at the Hospital, which aroused much interest.

It was unanimously decided to hold the Dinner next year in the last week of April at Norwich.

The following is a list of those present: Dr. A. J. Cleveland (in the Chair), T. Fisher, H. J. Starling, D. Rice, F. C. Wetherell, E. T. Morgan, B. K. Nutman, E. B. Hinde, I. S. Spain, A. Davidson, J. A. W. Stuart, G. Maxted, V. F. Soothill, E. W. Blake, E. Biddle, D. J. P. O'Meara, G. M. Stuart, C. G. Taylor, D. Vaughan, R. A. Norman, J. C. Rowbotham, E. A. Collins, E. T. Mayston, J. R. Barrow Clough.

The Nurses' Debating Society

A WELL-ATTENDED meeting of the above Society was held in the Nurses' Home on the evening of Friday, April 6th. Sister Hilda Gration kindly officiated as Chairman.

The subject before the house was, "That modern sport was detrimental to woman's social life." Members of the St. Thomas's Hospital Student Nurses' Association were present, and two of their members very ably opposed this motion.

Nurse STONE rose to her difficult task of proposer, and with a few words took us straight back to our grandmothers' drawing-rooms and "At Homes." Here we were imagined to make extremely witty conversations, sweep our long skirts about and be very polite, tactful and entertaining. This we were informed was the acme of social life—could we attain those heights after a strenuous day's training at some sport; apparently not.

Further, our proposer pointed out the unfortunate popularity of describing persons in their relation to sport would soon become absurd. Bernard Shaw might, in the near future, be described as, "Too, too divine, my dear, but an absolute rabbit at hockey!"

Nurse DICKSON opposed the motion and brought before us many new points in her favour: how sport increased our alertness, accuracy, keenness, sense of fitness and well-being, *esprit de corps* and competitive team spirit, all of which she argued were social assets.

Nurse MAITLAND returned us from our athletic grounds straight into a superior tea-drinking party deep in its samplers and scandal; tea-drinking has apparently always been a social asset, nurses should be thankful.

Nurse THEOBALD, the seconder to the opposition, threw fresh light on sport and the modern woman, whom she promptly dissected. Each class was taken and sport applied to it: the upper class, where it was thought that without sport it would have no social life; the middle classes spend their leisure hours more sociably at their tennis clubs than in their own homes, and the poorer class and factory girls were thought to be far safer playing some organised game, even if the standards were not very high, than standing on street corners or attending third-rate cinemas.

The motion was then put before the house, and at once supporters for each side leapt to their feet to twist the motion in various ways. Sport was futile—think of the "pole-sitting" competitions; social life was home-life—let us all have 16 babies, then sport would be quite unnecessary; serious swimming was fattening—let us merely splash; a Victorian figure was to be envied, but it was maintained by repression, not exertion; men still loved a mystery—let us wear longer skirts, a few more frills and be less straightforward; the nation is in debt—let us smash a few racing cars and aeroplanes in beating records and so create employment to build new ones; we all look for peace—let us play a few more international matches and increase friendly relations. Some member rose to point out that this method was more likely to postpone peace; how about "body-line" bowling?

Having passed from one subject to another, with a great deal of lively back-chat between, our time was up and a show of hands was called for. This showed an overwhelming majority in favour of sport. This ended another very enjoyable evening, which we hope to repeat later on in the year.

C. J. R.

The Incidence of Maglignant Growths in the Post-Mortem Room at Guy's Hospital

IN recent years it has become apparent that the type of case coming to the post-mortem room at Guy's Hospital has altered, and it was suspected that the chief alteration lay in the number of cases of malignant disease. Investigation of the figures has confirmed this impression, for it was found that the number of new growths had definitely increased.

In the years before the war, one in every ten post-mortem cases was a malignant growth, but since the war the incidence has become twice as great, and is now two neoplasms to every ten post-mortem cases.

The average yearly figures of several types of growth for a pre-war and post-war ten-year period (1904 to 1913 and 1924 to 1933 respectively) are given in the Table.

TABLE

Average Number per year.

	Period 1904-13	Period 1924-33
Post-mortem examinations	650	537
Malignant tumours	69	102
Sarcomata	5	6
Carcinomata	57	86

Of Mouth, Pharynx, Larynx	10.0	16.7	15	22
Of Œsophagus	6.7		7	
Of Stomach	10.0	26.8	15	38
Of Colon	10.0		14	
Of Rectum	6.8		9	
Of Bronchus	1.0		7	
Of Pancreas	3.4		5	
Unclassified	8.5		10	
Cerebral Spinal tumours	3.2		10	

It will be noticed that while the average number of post-mortems a year has fallen from 650 in the earlier period to 537 in the later one, the average number of malignant growths a year has risen from 69 to 102—the rise expressed as a percentage being from 10.7 per cent. to 19 per cent.

No seasonal incidence for any of the types given above was found.

H. G. C

Books By Guy's Men

By G. A. R. Winston, Esq., Wills Librarian

To study the phenomena of disease without books is to sail uncharted seas, while to study books without patients is not to go to sea at all.—The late Sir WM. OSLER.

MANY discoveries in medicine will for ever be associated with the name of Guy's. Was it not here that Sir Astley Cooper did some of the earliest work in experimental surgery after the time of John Hunter? And Guy's men look back with pride on such famous names as Addison, Bright, Golding-Bird, Gull, Hilton, Bryant, Wilks and Moxon, who were responsible for much original work.

In the Wills Library there are nearly 700 books collected together and placed in three cases to form a collection of books by Guy's men, yet it is surprising that so few take advantage of consulting the literature of the long ago. Can it be that all that is written in those hundreds of books is considered useless and out of date, or is it that the present-day student finds all his time occupied in reading the literature that is so necessary to his passing the examinations? While on the subject of the works of these old masters it might be interesting to recall a few, although one would like to mention many more if space would permit.

Sir Astley Cooper's contributions are several and varied. There are books on "Hernia," "Lectures on Anatomy and the Principal Operations of Surgery," "A Treatise on Dislocations and on Fractures of the Joints" which went into the sixth edition (and afterwards continued by Bransby Cooper); "Diseases of the Breast"; "Structure and Diseases of the Testis"; "The Anatomy of the Thymus Gland"; "Lectures on Surgery, and the Anatomy of the Breast"; Thomas Addison's most famous work is the "Constitutional and Local Effects of Disease of the Supra-Renal Capsules"—with John Morgan he wrote "An Essay on the Operation of Poisonous Agents upon the Living Body," and is it described as the first investigation in England into the phenomena of general poisoning, and with Bright published "The Elements of the Practice of Medicine." Golding-Bird's name is mentioned in connection with electricity and galvanism in their therapeutical relations. It is said of him that when he went up for examination at Apothecaries' Hall the Court of Examiners, in consideration for the reputation he had already obtained, declined to examine him, and gave him at once the licence to practise, with the "honours of the Court."

Thomas Bryant's "Practice of Surgery" was apparently a popular manual published in two volumes, and on special subjects he wrote: "Diseases and Injuries to Joints," "Ovariotomy," and "Diseases of the Breast." Charles Hilton Fagge and P. H. Pye-Smith were responsible for another manual, "The Principles and Practice of Medicine," two volumes, which went to several editions. Joseph Fox, who is described as probably the first dentist in England to write a scientific work on the teeth and to give his lectures at a medical school, wrote, "The Natural History of the Human Teeth." Galabin's "A Student's Guide to the Diseases of Women" was first published in 1879 and went into the sixth edition in 1903; he was also responsible for "A Manual of Midwifery," and these two manuals were the recognised text-books on these subjects for 20 years or more. E. W. Goodall and J. W. Washbourne published "A Manual of Infectious Diseases" in 1896, but it was not until 1908 that the second edition appeared. Sir James F. Goodhart's work on "Diseases of Children" was for some years considered one of the recognised manuals on the subject, and he was later assisted by G. F. Still. It is said of Samuel O. Habershon that he was the first in England to propose the operation of gastrostomy for stricture of the œsophagus, which Cooper Forster performed on

a patient of Habershon's in 1858. His book, "Pathological and Practical Observations on Diseases of the Abdomen . . ." had four editions between 1860 and 1888. Other subjects on which he wrote were, "On the Injurious Effects of Mercury in the Treatment of Disease," "Diseases of the Stomach, the Varieties of Dyspepsia, their Diagnosis and Treatment," the third edition of which was published in 1879.

Charles Higgens in 1888 published "A Manual of Ophthalmic Practice," the second edition of which was revised and edited by Arthur W. Ormond. Higgens was the ophthalmic surgeon who attended General Booth, and wrote an interesting account in an article entitled, "A Note on a Case of Double Cataract; the case of General Booth," in the *Lancet*, 1912, ii, 1073-74. Of John Hilton, a reference was made by Professor Chiene in an address on Surgery before the British Medical Association in 1891: "Bacon says there are books to skim over, books to read parts of, and books to be absorbed; Hilton's book on 'Rest and Pain' is one to absorb." The title of the first edition was, "On the Influence of Mechanical and Physiological Rest in the Treatment of Accidents and Surgical Diseases and the Diagnostic Value of Pain." It was later known as "Rest and Pain," and edited by W. H. A. Jacobson. The first edition appeared in 1855, and the fact that an edition was published in 1930 is sufficient to guarantee its quality.

In 1836, Thomas Hodgkin's "Lectures on the Morbid Anatomy of the Serous and Mucous Membranes" was published in two volumes, which, it is said, established his reputation as a member of the distinguished school of morbid anatomists connected with Guy's Hospital. It is also said of Hodgkin that he was the first to follow in the footsteps of the great Bichat by discussing the diseases and changes according to the various tissues of the body. In the *Lancet*, 1911, ii, 979-980, Frederick William Pavy's name is associated with "The Study of Carbohydrate Metabolism," and states that he was the founder of the modern study of diabetes. We have two editions of his book, "Researches on the Nature and Treatment of Diabetes," and he wrote "A Treatise on Food and Dietetics," "The Physiology of the Carbohydrates," and "On Carbohydrate Metabolism." The name of George Owen Rees is associated with a book "On the Analysis of the Blood and Urine, in Health and Disease, with Directions for the Analysis of Urinary Calculi," and this work had two editions. In 1850 he wrote, "On the Nature and Treatment of Diseases of the Kidney connected with Albuminous Urine (*Morbus Brightii*)." The Dictionary of National Biography states, "He deserves to be known in medical history as one of the first men to turn his attention to the chemistry of the urine."

Samuel Sharp was the first great surgeon appointed to Guy's, and in 1750 he published "A Critical Enquiry into the Present State of Surgery," the fourth edition was published in 1761. It is claimed to the credit of Guy's that one of the earliest public courses of anatomy and surgery was given by Samuel Sharp. Medical Jurisprudence brings to mind the name of Alfred Swaine Taylor, who, in the *B.M.J.*, 1880 (June 12th), is spoken of as the greatest medical jurist whom this country has produced, and perhaps the greatest in Europe. When he first began to lecture on medical jurisprudence at Guy's, at the age of 25, his was the first English course on this subject. Amongst his separate publications were: "The Elements of Medical Jurisprudence," "On Poisons in Relation to Medical Jurisprudence and Medicine," "A Manual of Medical Jurisprudence," "The Principles and Practice of Medical Jurisprudence" (two volumes). His works were later edited by Thomas Stevenson. He also collaborated with W. T. Brande in the publication of a book on "Chemistry."

Sir Samuel Wilks's "Lectures on the Specific Fevers and Diseases of the Chest" was reprinted from the *Guy's Hospital Gazette* and published in 1874. He also wrote "Lectures on Diseases of the Nervous System." It says in a tribute to him by a friend (*Lancet*, 1911, ii) that "Wilks stood out as the one of all others in England who first set up pathology on its proper bedrock, by the careful record of his daily work in the post-mortem room of Guy's Hospital." Of course, Wilks's name must be mentioned as co-editor with G. T. Bettany of "A Biographical History of Guy's Hospital."

On the score of age our collection does not possess any extraordinary distinction. It is hardly to be imagined that a book must be old and rare to be interesting, and it can truthfully be said in most cases that books are not as old as they seem, and the old ones contain many items of interest. When we consider that very few printed books since 1650 derive any special value from their age it will be more clearly realised that our interest in the books by Guy's men is mainly in the great men of the past, and to some degree in their medical contents. Let it be added that if our collection of books did not contain the names of great men it would be useless to refer to them at all. That they were great men is proved by the fact that their writings are consulted quite freely, and more particularly in the *Guy's Hospital*

Reports, where most of their contributions were first published.

In dealing with books by Guy's men we must not forget the Guy's men who help to keep alive our interest in the great men of the past by editing the more important books. In this category there comes readily to mind many popular books which owe their continuance to members of the staff. As, for example, Taylor's " Medicine," which is now edited by Dr. Poulton with the assistance of Dr. Symonds, Dr. Barber and Dr. Gillespie. This popular text-book was first published by Sir Frederick Taylor in 1890, and, after 43 years, having reached the 14th edition, it still remains one of the most popular text-books of medicine. Jacobson's " Operations of Surgery " was first published in 1889, and was successively continued by Mr. Steward, Mr. Turner and the late Mr. Rowlands. It is now popularly known as " Rowlands and Turner." Goodhart and Still's " Diseases of Children " was first published by Sir James Goodhart in 1885, and has been kept alive by Dr. G. F. Still. Sir Maurice Craig first published his book on " Psychological Medicine—A Manual on Mental Diseases," in 1905, and was later assisted by Dr. Beaton. Starling's " Physiology " has had a continuous run of popularity ever since the first edition in 1912, and, although from a Guy's point of view we cannot claim it to be a Guy's book as it is now edited by Professor Lovatt Evans, we can claim the late Professor Starling as a Guy's man. A very popular text-book which has come to Guy's is Gray's " Anatomy," which is now edited by Professor Johnston, and has been in use since 1858.

I suppose that a scientific publication establishes its reputation as a popular work when it passes into its second edition and beyond. In recent years we have had a few books by Guy's men which have quickly passed into a new edition, as, for example, Conybeare's " Text-book of Medicine," Douthwaite's " The Injection Treatment of Varicose Veins," and " The Treatment of Rheumatoid Arthritis." It must also be noticed that Sir William Hale-White's " Materia Medica " is now edited by Dr. Douthwaite, and since it was first published in 1892 has passed through 21 editions. Also Massie's " Surgical Anatomy " and Ogilvie's " Recent Advances in Surgery."

I cannot refrain from mentioning the *Guy's Hospital Reports*, which contain contributions from members of the Staff and from old Guy's men, and they endeavour to maintain the tradition for research with which the name of Guy's has always been associated. With the exception of the war period the *Reports* have been published regularly since 1836, nearly 100 years, and in its present quarterly form the up-to-date papers which they contain should appeal to a large circle of readers. Guy's can feel justly proud of the fact that the *Reports* are circulated to all parts of the world and occupy a high position in the periodical literature of the medical sciences.

I have endeavoured to prepare a list of books published by Guy's men during the past five or six years, which are in general use, and, although every effort has been made to make the list complete, there may be a few omissions.

RECENT BOOKS BY GUY'S MEN

Blacker, C. P.—Human Values in Psychological Medicine. Oxford, 1933, pp. 179.

Braithwaite, J. V. C.—Infant Feeding in General Practice. Foreword by H. C. Cameron. 1930, pp. 140.

Bray, George W.—Recent Advances in Allergy (Asthma, Hay-Fever, Eczema, Migraine, etc.) With Foreword by Arthur F. Hurst. Churchill, 1931, pp. 432.

Broster, L. R., with H. W. C. Vines.—The Adrenal Cortex. Lewis, 1933, pp. 94.

Bulleid, Arthur.—A Text-book of Bacteriology for Dental Students. Heinemann, 1927, pp. 234.

Cameron, Hector C.—The Nervous Child at School. Oxford, 1933, pp. 160.

Conybeare, J. J.—Self-Care for the Diabetic; for the use of Diabetic Patients. Oxford, 1926, pp. 70.

Do. (Editor).—A Text-book of Medicine by Various Authors. Livingstone, 1929, pp. 976.

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Craib, W. H.—The Electrocardiogram. Medical Research Council. Special Report Series, No. 147, H.M.S.O., 1930, pp. 57.

Craig, Maurice, with T. Beaton.—Psychological Medicine, A Manual on Mental Diseases for Practitioners and Students. 4th edition. Churchill, 1926, pp. 437.

Donaldson, Robert (the late).—Practical Morbid Histology. 2nd edition. Heinemann, 1931, pp. 487.

Douthwaite, A. H.—The Injection Treatment of Varicose Veins. Lewis, 1927, pp. 39.

Do. do. 5th edition. Lewis, 1929, pp. 58.

Do. The Treatment of Asthma. Lewis, 1930, pp. 164.

Do. The Treatment of Rheumatoid Arthritis. Lewis, 1929, pp. 80.

Do. do. 2nd edition. Lewis, 1933, pp. 131.

Do. A Guide to General Practice. Lewis, 1933, pp. 96.

Do. (Editor).—Hale-White's Materia Medica, Pharmacy, Pharmacology and Therapeutics. 21st edition. Churchill, 1932, pp. 547.

Eyre, J. W. H.—Bacteriological Technique: A Laboratory Guide for Medical, Dental and Technical Students. 3rd edition. Wood, 1930, pp. 619.

Do. with P. P. Laidlaw and others.—The Reaction of Culture Media. Medical Research Council. Special Report Series, No. 35 (revised), H.M.S.O., 1927, pp. 21.

Fagge, C. H.—The Acute Abdomen. Bale, 1932, pp. 92.

Do. The Pocket Anatomy. 9th edition. Baillière, 1933, pp. 333.

French, Herbert S. (Editor).—An Index of Differential Diagnosis of Main Symptoms by Various Writers. 4th edition. Wright, 1928, pp. 1,171.

Do. with E. E. T. Nuthall.—Medical Laboratory Methods and Tests. 4th edition. Baillière, 1926, pp. 246.

Gillespie, R. D., and D. K. Henderson.—A Textbook of Psychiatry for Students and Practitioners. Oxford, 1927, pp. 520.

Do. do. 3rd edition. Oxford, 1932, pp. 595.

Do. Sleep and the Treatment of its Disorders. Baillière, 1930, pp. 267.

Do. The Mind in Daily Life. Methuen, 1933, pp. 288.

Goadby, Sir Kenneth.—Diseases of the Gums and Oral Mucous Membranes. 4th edition. Oxford, 1931, pp. 496.

Hale-White, Sir William.—Materia Medica. (*See* Douthwaite, A. H.)

Hopkins, Sir F. Gowland.—The Problems of Specificity in Biochemical Catalysis. 23rd C. Boyle Lecture. Oxford, pp. 20.

Housden, L. G.—The Breast-Fed Baby in General Practice. Lewis, 1933, pp. 118.

Hurst, Arthur F., with Matthew J. Stewart.—Gastric and Duodenal Ulcer. With the Co-operation in the Radiological Sections of P. J. Briggs. Oxford, 1929, pp. 544.

Iredell, C. E.—Colour and Cancer: An Investigation. Lewis, 1930, pp. 106.

Johnston, T. B. (Editor).—Gray's Anatomy, Descriptive and Applied. 25th edition. Longmans, 1933, pp. 1,494.

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Laidlaw, P. P.—*See* Eyre, J. W. H.

Lane, Sir W. Arbuthnot.—The Prevention of the Diseases Peculiar to Civilisation. Faber, 1931, pp. 99.

Do. New Health for Everyman. Bles, 1933, pp. 202.

Layton, T. B.—On the Conservation of the Lymphoid Tissue of the Upper Respiratory Tract. Ash, 1932, pp. 46.

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Ogilvie, W. H.—Recent Advances in Surgery. Churchill, 1928, pp. 461.

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The Editor will, at all times, be glad to consider articles or sketches, provided that they are accompanied by the writer's name and address, not necessarily for publication. The payment that the GAZETTE can offer is merely nominal. Authors who desire reprints of their papers should make their own arrangements with the printers when they return their proofs. All contributions to be addressed to *The Editor*, who does not accept responsibility for the views expressed by contributors

Correspondence

Unfair to Nurses

To the Editor of the GAZETTE

SIR,—Some months ago, at a provincial hospital, a nurse was severely blamed for having placed chloroform in a bottle labelled for ether, or *vice versa*. Apparently the wrong anæsthetic was administered by a medical practitioner, with, I think, fatal results to the patient. The nurse was blamed, quite unjustly as I think; a medical man who cannot distinguish between the smells of chloroform and ether is sadly to blame if he administers the wrong anæsthetic.

On page 168 of your last number—first column and sixth paragraph—a nurse is accused of gross stupidity because she "mistook the overflow of a distended bladder for the normal emptying of that viscus." Is this accusation quite fair to the nurse? To accuse a nurse of gross stupidity in mixing up these two conditions is far worse than for me to suggest that I cannot quite understand why this phenomenon should have escaped the attention of the medical practitioner who gives such an otherwise excellent account of a most successful case. From my experience I can say truthfully that there are many students and practitioners who frequently make a similar mistake.

When I was up for my examinations a full bladder had always to be mentioned in connection with the diagnosis of tumours and diseases occurring in women. But surely it is a little hard to blame a nurse for making a mistake in this connection.

Why should the nurse so frequently be blamed in accidents for which the medical man should take responsibility? Was there not a case not so long ago in which a nurse was at first held responsible for perforating the bladder with a catheter, when it appeared that the operating surgeon (or, shall I say, gynæcologist?) actually wounded the bladder himself at the time of the operation? Fortunately, money and the Appeal Court put the matter right. But suppose, Sir, there had been no money—and I am not very sure that many nurses have very much—there might have been no Appeal Court.

Yours, etc.,

A. RALPH THOMPSON.

Medical School, Guy's Hospital, S.E.1.

Spontaneous Complete Rupture

To the Editor of the GAZETTE

SIR,—In your issue of April 14th, Dr. Campbell Gowan records a case of this rare accident in a labour over 40 years ago. No one can have read this dramatic story without being moved to admiration for the skill and resource which Dr. Gowan showed in his diagnosis and treatment. By recognising the occurrence of the rupture and promptly extracting the fœtus and after-birth he undoubtedly saved his patient from immediate death, and by his postural treatment he made her ultimate recovery possible.

I have notes of a case on our Maternity District, in April, 1928, which illustrates what would have happened in his case but for his timely intervention.

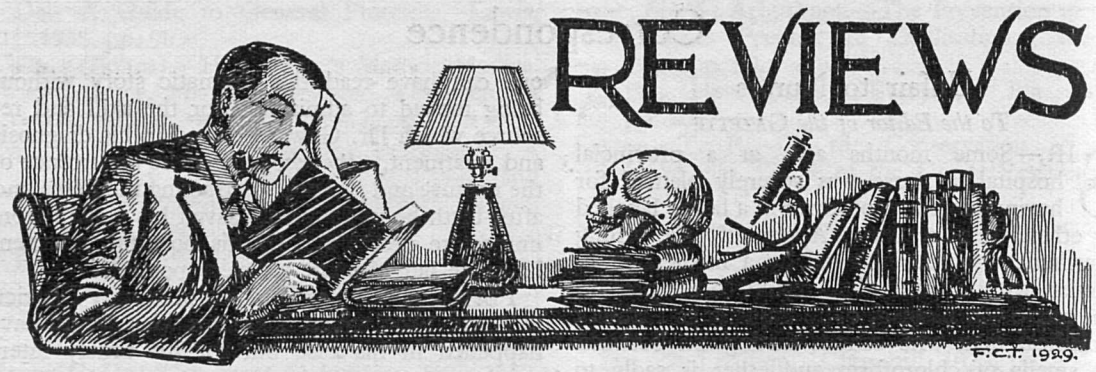
A mother of seven children, all born naturally, started her eighth labour at term. After four hours the Extern in attendance noticed a sudden change in her condition, associated with abdominal pain and recession of the presenting head of the fœtus. The Obstetric Resident, who was summoned at once, got her into Victoria Ward in an ambulance. She was moribund on admission, and it was quite obvious that the cause of her sudden collapse was a spontaneous complete rupture of her uterus; the fœtus could be palpated lying free in her abdomen. She died soon after, and at autopsy it was found that both fœtus and placenta had been forced out by the muscular contraction of her womb, through a great rent in its left side, into the peritoneal cavity. We should learn from your contributor's successful case that the obvious signs of this disaster in a debilitated multipara call for immediate delivery, if it be feasible, and also that even a complete rupture with prolapse of intestine is sometimes best treated conservatively.

I saw such a case some years ago. After a difficult delivery a practitioner discovered loops of small intestine protruding into the vagina. The patient's condition was so grave that laparotomy was out of the question, and we had to content ourselves with packing the uterine cavity with a gauze roll. She survived, but two weeks later I had to remove her uterus, with a good ultimate result, on account of threatening intestinal obstruction. That this complication is not an inevitable sequel to prolapse of intestine through a ruptured uterus is proved by the recovery of Dr. Gowan's patient. He claims that it was prevented by making the patient lie on the side of the tear for two days and a half. It is a suggestion well worth remembering.

Yours, etc.,

ARTHUR J. McNAIR.

9, Devonshire Place,
Upper Wimpole Street,
W.



The Physician's Art. By Dr. ALEXANDER GIBSON. Published by the Oxford Clarendon Press. *Price 7s. 6d.*

DOCTORS, however gifted with the pen, and Sir William Osler comes at once to mind as an example, are apt to be sententious and pompous when they write about the wider aspects of medicine. Those who have become famous solely as writers, and there have been many, seldom venture in this difficult field, and the best appreciations of the doctor have come from the layman.

Dr. Gibson, however, in his attempt to expand a fragment of John Locke's (philosopher first and physician second) *De Arte Medica*, has avoided these pitfalls. The fragment serves as a preface to Dr. Gibson's views on the position and function of the good physician in social life. He quotes extensively from the medical classics, and there is nothing abstruse, startling or advanced in his views. The whole, however, is bound and controlled by his own logical, considered and well-tried ethics, and his advice to the young man, especially on the conduct of his practice and his life, is didactic but humble, high-idealed but sympathetic, and is leavened by the wit of worldly knowledge.

The book is beautifully printed, and its binding entitles it to a place on the shelves next to the Testament of Beauty and the Shorter Poems.

The Treatment of Rheumatism in General Practice. By W. S. C. COPEMAN, M.A., M.B., B.Ch., M.R.C.P. Published by Messrs. Edward Arnold & Co. Pp. 209. *Price 9s.*

THE object of this book is to engender a new interest in the treatment of rheumatism, especially in the chronic form, and to overcome the attitude of "defeatism," with its accompanying mistaken policy of *laissez faire* that has done so much harm to the medical profession.

The author, who speaks with authority as Hon. Physician to the British Red Cross Clinic for Rheumatism, Peto Place, although he outlines the clinical aspects and pathology of rheumatism in all its forms, is primarily concerned with the treatment. In this he stresses the much-neglected importance of physical therapy both in the active stages to arrest the disease process and in the chronic stages to prevent and minimise deformity.

The chapters on the indications and relative merits of all physical methods, from baths to orthopædics, are both logical and critical, and Dr. Copeman makes a point of describing the simplest forms of therapeutics which can be carried out in the home, as well as the most elaborate forms of spa treatment.

This is a first-class book, stimulating and refreshing, which we can heartily recommend.

Human Values in Psychological Medicine. By Dr. C. P. Blacker. Oxford Medical Publications. *Price 8s. 6d.*

IN this book Dr. Blacker gives us a mixture of psychology and philosophy, with a biological background, which makes the whole extremely readable. He takes as the main theme of the book the idea that in considering a man as he is one must attempt to understand what he himself is striving to be—an idea which, if not new, is here presented in a most stimulating form. The author begins with some philosophical prolegomena and then proceeds to define the term "value." He points out that the values of mankind may be divided into fundamental or "pivotal" values and subsidiary ones of lesser importance. They may also be divided into indiscriminate values, those which pertain to nearly everybody, such as the "value" of the idea of courage and such like. There are also discriminate values which are held by large groups of people such as the "idea" of the British Empire. There are, finally, personal values which are individual, or nearly so. It is

precisely these individual values which are so important, and so difficult to define, since language is only of use in describing things which are shared between numbers of people. Individual idiosyncrasies cannot easily be expressed in terms of common speech.

Dr. Blacker has attempted to discover, by means of a series of questions, the kind of values that are held by the average out-patient. The results are most interesting, and should furnish much food for thought. This is not a book with which one gets through examinations, but it is emphatically a book which anyone should read who is in the least interested in the relation of himself and his patients to their mental, social, moral and religious background. It is not a book which requires a deep knowledge of psychological or philosophical jargon to understand, yet it is one of those rare books which do seem to bring the ultimate " how " and " why " a little nearer solution. The last chapter, which is something of a digression, affords ample illustration of the advantages which Dr. Blacker possesses in being a biologist as well as a psychiatrist.

A Short History of Common Diseases. By Divers Authors, edited by W. R. BETT. Published by Milford, Oxford University Press. Pp. 200. *Price* 10*s.* 6*d.*

Behind the Doctor. By LOGAN GLENDINING. Published by W. Heinemann, Ltd. Illustrated, pp. 458. *Price* 21*s.*

THE first of these books is a scholarly *resumé* of 16 common diseases ranging from the newest, such as appendicitis, to the oldest, such as malingering. The divers authors are either specialists in medical history or in the diseases they deal with; in most cases they are both. Dr. Bett has chosen his team well, and the books provide a unified retrospect of the general progress of medicine through the triumphs and defeats of its pioneers. Not only does it record how much has been gained, but shows how much more is still to be learnt now that the diseases have been identified. The many names, dates and facts are linked together by good style, so that, although authoritative, the book is easy to read.

This book should find its way on to, and off, many medical shelves, and is an excellent present for a doctor.

The second book attempts to evoke for the admiring layman the ghosts of those whose discoveries are behind the thoughts and actions of the doctor of to-day. It is accurate and extremely well informed, as the large bibliography testifies, and the illustrations are excellent. Nothing can be said against the matter, but much against the manner of this book. The facts are presented dramatically and sensationally in a tiresome quasi-historical, told-to-the-children style. Illnesses are maladies which overcome an unhappy sufferer; people do not become, but are destined to be great; notables are introduced as none other than the illustrious—and, despite the villains of hypocrisy and conservatism, virtue is always triumphant.

Nevertheless, this book is fundamentally sound and can be recommended equally to the interested layman and to the doctor who has no knowledge of the history of medicine.

This Panel Business. By A G.P. Published by Messrs. John Bale, Sons & Danielsson, Ltd. 1933, pp. 364. *Price* 10*s.* 6*d.*

THIS depressing book is concerned with the conditions under which panel practitioners labour. The author starts by describing the grievous plight of the profession, and compares National Health Insurance in England with the system in other countries.

In the second section he ascribes much of the failure of the Panel to ignorance of the regulations on the part of those concerned. He gives examples of the pitfalls which await the unwary practitioner, illustrated by lurid excerpts from the lay press.

Not an easy book to read, but so wide a subject is necessarily difficult to classify. Anyone entering Panel practice as *locum tenens* or assistant will find help, although they will certainly be discouraged by the loud note of pessimism. The print is clear, but the paper is of inferior quality.

The Relief of Pain in Childbirth. By F. NEON REYNOLDS, M.C.O.G., F.R.C.S.E. Published by Medical Publications, Ltd. 1934, pp. 114. *Price* 10*s.* 6*d.*

IT is refreshing to read a book in which the author writes from experience, rather than giving a symposium of other text-books. Mr. Reynolds gives a concise account of his subject and stresses only those methods which he has found to be efficacious.

The matter is divided into preliminary considerations, and the measures to be adopted for relieving pain in the first and second stages of labour. Winning the patient's confidence during the early months of pregnancy is undoubtedly half the battle in lessening the terrors of the confinement, and Mr. Reynolds makes a good point of this in the second chapter.

The drugs are familiar to medical men, but valuable information is to be gleaned from a study of his technique. He considers that, on the whole, the newer compounds, such as the barbiturates,

are unsuitable in labour, and advises the use of morphia and scopolamine or paraldehyde during the first stage. We are conversant with the "twilight sleep" combination, but feel that certain points, such as getting a labouring woman to retain rectal paraldehyde, might be more fully discussed.

For the second stage he finds that chloroform is the great stand-by, but that gas and oxygen is valuable in favourable circumstances. He expresses the opinion that evipan may find its uses in midwifery in selected cases. The last two chapters are concerned with the use of drugs by the midwife and a summing up of his recommendations.

An excellent and readable little book which should be in the hands of all who engage in midwifery. The print is clear and the binding good, but the price is, perhaps, excessive.

Recent Advances in Endocrinology. By A. T. CAMERON, M.A., D.Sc., F.I.C., F.R.S.C. Published by Messrs. J. & A. Churchill, Ltd. 1933, pp. 365. *Price* 15*s*.

TO write a book in the "Recent Advances" Series is like buying something on the hire-purchase system—you are never finished with it. Especially is this true if one is ambitious enough to choose so kaleidoscopic a subject as endocrinology, for the ink has hardly dried on the paper before many of the words which it has written have been disproved. This book will therefore need revision at frequent intervals.

Professor Cameron has thus undertaken a difficult task which is in no way made lighter by the enormous mass of literature with which the subject is barricaded. It is mainly this literature which renders his task so responsible, for the original papers are far too voluble for the ordinary man to tackle, and there are few who will read this book to criticise, and a vast majority who will read to learn.

It is of great significance that the publishers have selected a biochemist to write this book. There is no doubt at all that the future of endocrinology lies in the hands of the biochemist. Modern methods of hormone detection and standardisation by biological assay are too laborious, too inaccurate and too expensive to be satisfactory, and will undoubtedly be superseded in the, let us hope, near future by the technique of the test tube. So, let no one say that this book is too biochemical, for biochemistry is the most urgent and therefore immediately important aspect of this subject.

The glands of internal secretion dealt with are the thyroid, parathyroids, pancreas, suprarenals, pituitary, ovaries and testes. There is also a short chapter in which such endocrine principles as gastrin, secretin, the pineal and the thymus hormones, about which little is known, are briefly discussed. Finally, there is a chapter on the exceedingly difficult subject of the inter-relationships of the various glands, in which the author has wisely been very guarded in his assertions, confining himself mainly to an unqualified statement of the experimental evidence available.

The modern views of thyroid physiology and pathology are fully dealt with, and emphasis is laid on the part played by iodine in the metabolism of the thyroid in particular and in the body generally. There is an excellent series of photographs of a cretin treated with thyroid, reproduced from an article by Dr. Close in the *Guy's Hospital Reports*.

The section on the parathyroids must have been easier to write for the subject is comparatively less controversial. The recent literature has, however, been reviewed concisely.

The chapter on the pancreas deals with the chemistry of insulin, the theories as to the site of its action, its use in diabetes and other conditions, its inefficacy by mouth and the disappointing results obtained with such substitutes as synthalin. Dietetic principles in the treatment of diabetes are discussed. The relatively rare condition of hyperinsulinism is mentioned.

In the chapter on the suprarenals, the actions of adrenalin are described and the "tonus" and "emergency" theories of its secretion discussed. The chemical details of the extraction of the cortical principle are given rather fully. Addison's disease is mentioned in the light of its treatment with cortin. There is rather too little space devoted to the interesting condition of hyper-cortico-adrenalism.

The pituitary gland is dealt with in an excellent brief review. The relation of the posterior lobe to fat metabolism and diabetes insipidus is discussed. The clinical conditions associated with the anterior lobe are classified and briefly described and two cases of the recently discovered Cushing's syndrome of pituitary basophilism are mentioned. The chapter concludes with a short section on the experimental results of the administration of pituitary extracts.

In the chapter on the reproductive glands the detection of œstrin by the vaginal smear technique of Allen and Doisy is briefly described. This is followed by an account of the isolation, chemical properties and actions of the follicular hormone and of the active principle of the corpus luteum.

Collip's work on the placental hormones emmenin and the anterior-pituitary-like principle is reviewed. After a comparison of the chemical constitutions of the sex hormones, there is a brief description of the treatment of functional menstrual disorders by organotherapy, and of the Aschheim-Zondek pregnancy test.

Clinical endocrinology has now risen to the level of a scientific branch of medicine, and though it is still exploited by the less reputable firms of manufacturing chemists and the more fashionable of the tail-coated consultants, it is beginning to live down such notoriety. Thus it is the duty of serious-minded medical men to make themselves familiar with the scientific principles involved in the diagnosis and treatment of cases of endocrine disorder. For such this book will well repay perusal.

The Mind in Daily Life.—By R. D. GILLESPIE. Published by Messrs. Methuen & Co., Ltd. Pp. 288. *Price* 8*s.*

THESE are days when, to some, psychology is becoming a pestilential word. It may so easily be used by the semi-informed as a cloak to hide their ignorance whilst they impose their theories upon their associates. It may, to vary the metaphor, become a peg upon which all sorts of quackery can be hung in a guise of truth. One has only to look at the popular advertisements, especially those in American magazines, to realise how much can be perpetrated in its name. The position is made more difficult for the ordinary reader, both medical and lay, by the fact that if he attempts to controvert what he hears, he is met with a flood of technical jargon which makes him feel out of date and foolish.

His obvious remedy is to read something about the subject for himself, but here at once another difficulty crops up. If he is an intelligent person he will wish to read a book by a psychologist who is not an ardent disciple of one particular school of thought, but who is likely to be able to give him a general view of the subject, putting each school into its proper place. He will want, in fact, to look at a small-scale map which covers the whole territory, rather than at the large-scale edition of a small portion of it. But again this unfortunate seeker after truth may be baulked, for he is likely to find himself engaged in reading a dull and academic volume which deals more with the habits of bees than with those of his fellow-men.

Lately, however, several good books have appeared to fulfil the need for a clear account of the way in which the mind works in health and in disease. This is certainly one of the best of them. It represents the views of one whose only bias is towards the application of enlightened common sense to the problems of every-day life. It belongs to no school save this, it borrows freely from every school. It is written with a refreshing freedom from technical jargon, and should be as intelligible to the layman as it is to the medical man. More important still, it is written neither down to the one man nor up to the other.

The account of the psychology of childhood is particularly good, and in this section the author's extensive personal experience with children is apparent throughout. Altogether it is a thoroughly intelligent and readable book, and has been written with care and restraint. The temptation to stray into other fields and to indulge in an orgy of platitudinous philosophising must be very strong in all books of this type. It is a temptation which has been well resisted in the present instance, and, save for one or two minor lapses, the author is content to let us form our own opinion on the facts. When one considers some of the remarkable philosophical systems which contemporary thinkers have contrived to build up on the basis of their own speciality, be it the study of the stars or what not, then one may well be thankful for such forbearance.

The appendix on the art of studying might profitably be put into the hands of all those who have examinations to pass.

Lord Lister. By C. J. S. THOMPSON, M.B.E. Published by Messrs. John Bale, Sons & Danielsson, Ltd. 1934. pp. 96. *Price* 5*s.*

ONE is apt to regard the discovery of antiseptics as the sudden fruition of a night's labour. In this book Mr. Thompson gives a brief account of the infinite pains and devotion which led to this life-saving system.

The story is of the nature of a life of Lister, with glimpses of surgery in pre-antiseptic days, and the introduction of anæsthetics. Instances of his ingenuity in devising instruments are given, notably the catgut ligature, which is not generally realised to be his invention. As a man, Lister's steadfastness in the face of scepticism and his kindliness of heart are apparent on every page.

Although short, the book is well planned, and an excellent introduction to the study of the life of the great surgeon.

Handbook of Therapeutics. By DAVID CAMPBELL. Published by Messrs. E. & S. Livingstone, Ltd. Second Edition, pp. 443. *Price* 12*s.* 6*d.*

THIS book is primarily intended to impress on the student the main principles on which therapeutics is based. It deals with all aspects, from the simple arrangement of the sick-room to the elaboration of spa treatments. The

author does not obscure his points with many diet sheets, lists of drugs and detailed prescriptions, as these minutæ depend on experience in their use and realisation of their proper place in a considered and rational plan of treatment. Such fundamentals as the writing of prescriptions, the modes of administering medicines, and the various therapeutic uses of water are described in detail.

This second edition, published less than four years after the first, contains discussions on such recent innovations as nirvanol in chorea, atabrin in malaria, ketogenic diets, and adrenal cortical extracts in Addison's disease.

The text is well illustrated by photographs, diagrams and temperature charts, and, like all the products of Messrs. Livingstone, is clearly printed on thick paper in a stout binding.

A Short History of Ophthalmology. By ARNOLD SORSBY, M.D., F.R.C.S., with Foreword by R. RUTSON JAMES, F.R.C.S. Published by Messrs. John Bale, Sons & Danielsson, Ltd. *Price* 3*s.* 6*d.*

THIS little book is one of the "Short History" Series, of which the author is general editor. It is pleasing and interesting reading for the armchair, mid-way between novel and text-book, but perhaps more suited to the qualified practitioner than the harassed student.

It is an excellent epitome of ophthalmological history, the author having traced the relevant history from the Ancient East through Greek and Arabian periods to the Western Middle Ages and Modern Period. The ancient conceptions of the anatomy, physiology and pathology of the eye are exceedingly interesting, and the reproduction of ancient drawings of the eye is a pleasing feature. Special chapters are devoted to therapeutics, spectacles and the ophthalmoscope, and the final chapter on Ophthalmology in the British Isles contains a series of ancient writings, which serve to maintain the reader's interest to the very last page.

S. H. W.

Practical Points in Eye Surgery and Dressing. By HUGH E. JONES. Published by Messes. John Bale, Sons & Danielsson, Ltd. *Price.* 2*s.* 6*d.*

THIS conveniently small handbook completely upholds the claims made for it in the Introduction. The general examination of the eye is treated very thoroughly indeed. The necessary instruments, dressings, etc., for use in the Out-Patient Department or in private practice comprise a very complete, yet not superfluous, equipment.

The preparation of patients for operation is fully described, and amongst the surgical emergencies one has to treat, the differentiation between glaucoma and cataract is rightly stressed.

This book, although of such small dimensions (30 pages or thereabouts), is a mine of useful information.

First Year Nursing Manual. By M. S. RIDDLE. Published by Messrs. Faber & Faber, Ltd. Pp. 180. *Price* 3*s.* 6*d.*

THIS is a very useful little book for the first-year probationer. It is written clearly and concisely, and, while conveying all the information necessary, does not confuse a beginner with a mass of detail.

The first-year nurse should find the manual helpful in her practical work.

A Medical Handbook for Nurses. By I. STEWART, S.R.N. Published by Messrs. Faber & Faber, Ltd. *Price* 6*s.*

THIS handbook of the nursing of medical diseases is already very popular in the nursing profession. The second edition has been revised and the section on Materia Medica has been brought into line with the recent publication of the British Pharmacopœia (1932). The subject matter is clearly arranged according to the systems of the body, and there is a useful collection of illustrations. This book should continue to be a very helpful one to the nurse in training.

Aids to Elementary Hygiene. By EVELYN PEARCE. Published by Messrs. Faber & Faber, Ltd. *Price* 3*s.*

THIS small book gives questions and answers in Hygiene for the Preliminary State Examinations. It is designed solely for revision purposes, and would be quite inadequate for any thorough study of the subject. It, however, may have its definite use for certain nurses who like to revise and test their knowledge in this way. At the end of each section there are lists of oral questions such as a nurse may be confronted with at the examination, and many nurses will appreciate these.

The Nurse's Handbook of Hygiene. By L. E. H. WHITBY, M.A., M.D. (Cantab.), M.R.C.P. (Lond.), D.P.H. Published by Messrs. Faber & Faber, Ltd. *Price* 4*s.* 6*d.*

MR. WHITBY'S "Handbook of Hygiene" is so well known amongst nurses that little need be said except to draw attention to the fifth edition, which has recently been issued.

This edition is slightly longer, but still gives a concise account of hygiene as required by the nurse in training.

More information is given on Infection and Infectious Diseases, and the chapters on Food have been brought up to date. For students who do not wish for more detail and further statistics this elementary text-book is excellent.

The Midwife's Dictionary and Encyclopædia. Revised by GLADYS B. CARTER. Published by Messrs. Faber & Faber, Ltd. *Price 3s. 6d.*

THIS is a compact little book containing much useful material for the practising midwife. With a book of this size it is not possible to go deeply into the subject of midwifery, but it appears to contain practical information on every question which might arise in connection with midwifery. The explanation of words and terms is clear and to the point, and the method of indicating pronunciation should be easily understood. A number of illustrations are included, greatly adding to the value of the book, and the chief points in treatment are set out in a concise manner. Several pages are devoted to useful information on vital statistics, vitamins and diet.

Hospital Information, etc.

Notice

GUY'S HOSPITAL DENTAL SCHOOL
DENTAL TRAVELLING SCHOLARSHIP

A Scholarship enabling the holder to take out a course of at least six months' practical work in Dental Surgery at one or more Colonial or Foreign Dental Schools will be awarded in May, 1934. The conditions attached to the award are as follows :—

1. Candidates must be registered Licentiates in Dental Surgery of the Royal College of Surgeons of England, or holders of a Dental Degree of a British University who have been educated at Guy's Hospital Dental School.

2. The Scholar will be required, within the 12 months succeeding his appointment, to take out a course of at least six months' practical work at one or more Colonial or Foreign Dental Schools or Colleges previously approved by the Dental Council of the School.

3. The Scholar will be required to present to the Dental Council of the School a report of the work which he has done during the period of his Scholarship, and a certificate from the Dean or other responsible official of the school or schools to which he has been attached, giving details of such work done and the time occupied thereon.

4. The total value of the Scholarship will be £250, of which, unless otherwise ordered, £150 will be awarded upon the appointment of the Scholar and the remainder upon the completion of the Scholarship and the approval of the report by the Dental Council of the School.

5. The Scholar may be required to act as a Staff or Extra Demonstrator of Operative Dental Surgery during the academic year following his residence abroad.

The Scholar will not be required to proceed abroad until September, 1934.

Applications should be lodged with the Dean, Guy's Hospital Dental School, London, S.E.1, not later than May 24th, 1934.

Papers by Guy's Men

H. G. Close. The incidence of adenoma of the pituitary body in some types of new growth. *Lancet*, 1934, i, 732.

C. S. Hallpike. Hearing aids and hearing tests. *Jour. Laryngol. and Otol.*, 1934, xlix, 240.

Geoffrey Rake. Studies on meningococcus infection : (3)—with Henry H. Scherp—The antigenic complex of the meningococcus, a type-specific substance ; (4) The antigenic complex of the meningococcus, group-specific carbohydrate and protein fractions ; (5) The presence of meningococcus precipitinogens in the cerebro-spinal fluid. *Jour. Exp. Med.*, 1933, lviii, 341, 361, 375.

Geoffrey H. Greenway. Diaphragmatic hernia in an infant. *Lancet*, 1934, i, 628.

G. W. Bray and L. J. Witts. Pseudo-ephedrine in asthma. *Lancet*, 1934, i, 788.

R. C. Brock. The platelet count in tuberculosis. *Tubercle*, 1934, 241-250.

A. H. Douthwaite. On the control of obesity. *Brit. Med. Jour.*, 1934, i, 699.

L. R. Broster. The adrenogenital syndrome. *Lancet*, 1934, i, 830.

Change of Address

T. Nevill Wood, " Ashcroft," Wadhurst, Sussex.

Sol. M. Cohen, African Life Building, St. George's Street, Cape Town.

W. R. Kirkpatrick, Combined Indian Military Hospital, Wana, Waziristan District, India.

Birth

ROBERTSON.—On Friday, April 13th, 1934, at " Mardale " Nursing Home, Watford, to Margaret (née Nicholas), wife of Dr. J. Murray Robertson, of 30, Upton Road, Watford—a son.

Death

SMITH.—On April 22nd, 1934, at 74, Compton Road, Brighton, in her 58th year, May Smith, for 36 years Clerk and Secretary in the Matron's Office ; Secretary to the Guy's Hospital Nurses' League.

EDS. { G. L. B. T. / D. P. K.

GUY'S HOSPITAL MEDICAL SCHOOL.

TIME TABLE. SUMMER TERM, 1934.

CHEMISTRY, PHYSICS AND BIOLOGY.

Course	Subject	Lectures	Place	Practical Classes	Place
Pre-Medical Conjoint	Inorganic Chemistry Organic Chemistry	Tues. & Thurs. 9.30 a.m. First Lecture, Thursday, May 3rd Thurs. 2-3 & Fri. 12-1 p.m. First Lecture, Friday, May 4th	Chemistry Theatre Chemistry Theatre	Thurs. 3-5p.m. & Fri.10-12 noon. First Class, Thurs., May 3rd. When no Lecture, Practical Class 2-5 p.m., on Thurs.	Chemistry Laboratory
	Physics	Light & Sound. Tues. & Thurs. at 10.50 a.m. Heat. Tues. at 12 noon. First Lecture, Thurs. May 3rd	Class Room IV.	Mons. 10-1 p.m. and 2-5 p.m. First Class, Mon., May 7th	Physics Laboratory
	Biology	Weds. 9.30 a.m., Thurs. 12 noon, Sats. 9.30 a.m. First Lecture, Thurs., May 3rd	Physiological Theatre Class Room IV.	Tues. & Fridays 2-4 p.m. First Class, Fri., May 4th	Biology Laboratory
M.B. London	Inorganic Chemistry	Tues. & Thurs. 9.30 a.m. First Lecture, Thurs., May 3rd	Chemistry Theatre	Mons. 10-1 p.m., Tues. 2-5 p.m. First Class, Tues., May 1st	Chemistry Laboratory
	Physics	Light & Sound. Tues. & Thurs. 10.50 a.m. Heat. Tues. at 12 noon. First Lecture, Thurs., May 3rd	Class Room IV.	Thurs. & Fridays 2-5 p.m. First Class, Thurs., May 3rd	Physics Laboratory
	Biology	Weds. & Sats. at 9.30 a.m. Thurs. at 12 noon. First Lecture, Thurs., May 3rd	Anatomical Theatre	Weds. & Fridays at 10.30 a.m. Sats. 11 a.m. First Class, Fri., May 4th	Biology Laboratory

ORGANIC CHEMISTRY, ANATOMY AND PHYSIOLOGY

Subject	Days and Times	Place	First Class or Lecture
Organic Chemistry (2nd M.B. Part I.)	Lectures, Mon. 1.45 and Weds. 11.30 a.m. Practical. Mondays 2-5 p.m. Thursdays 10-1 p.m.	Chemistry Theatre Chemistry Laboratory	Wednesday, May 2nd Thursday, May 3rd
Anatomy	Elementary Lectures. Weds. 10.30 a.m. Fri. 9.30 a.m. Practical Anatomy. Daily from 9.30 a.m. to 5 p.m. Revision Classes. To be announced later. Normal Histology. Tuesdays at 2 p.m.	Anatomical Theatre Dissecting Room Demonstration Theatre Histology Laboratory	Wednesday, May 2nd Tuesday, May 1st To be announced later. Tuesday, May 8th.
Physiology	Systematic Lectures. (All Students) Mon., 9.30 a.m. Tues., 9.30 a.m., Thurs., 2 p.m. Chemical Physiology— (Junior Students) Tues., 10.30 a.m. to 12.30 p.m. (for Students taking Histology), Tues., 2-4 p.m., Fri., 10.30 a.m. to 12.30 p.m. or 2-4 p.m. Human Physiology— (Junior Students) Mon., 10.30 a.m. to 12.30 p.m. (for Students taking Organic Chemistry) or 2-4 p.m. Revision— (All Candidates for the July and September Examinations) Wed., 10.30 a.m. to 12.30 p.m. Clinical Physiology— (For all Students in Final Six months of Study), Thurs., 12 noon.	Physiological Theatre Chemical Physiology Laboratory Experimental Physiology Laboratory Experimental Physiology Laboratory Clinical Theatre	Thursday, May 3rd Friday, May 4th Monday, May 7th Wednesday, May 9th Thursday, May 10th

SUBJECTS FOR FINAL EXAMINATION.

Subject	Lecturer	Days and Times	Place	First Class or Lecture
Bacteriology	Professor Eyre	Lectures. Tues., Weds. and Thursdays at 12 noon. Practical. Mons., Tues., Weds., Thurs., Fridays and Saturdays at 9.15 a.m.	Pathological Theatre Pathological Class Room	Tuesday, April 24th Monday, April 23rd
Psychological Medicine	Dr. Gillespie	Lectures. Fridays at 9 a.m. Demonstrations. Wednesdays at 3.15 p.m.	Physiological Theatre Bexley Mental Hospital	Friday, May 4th Wednesday, May 2nd
Forensic Medicine	Dr. Ryffel	Fridays at 4.30 p.m.	Class Room 3	Friday, May 4th
Operative Surgery	Mr. Doherty	Mondays and Thursdays at 12 noon	Operative Surgery Class Room	Monday, May 14th
Applied Anatomy	Professor Johnston	Wednesdays at 12 noon	Anatomy Demonstration Theatre	Wednesday, May 2nd

GUY'S HOSPITAL GAZETTE

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PASSIM

WE observe that a Squash Rackets Club is being added to the Clubs' Union. Squash is a game which has rightly become increasingly popular in the last few years, and there are now very few institutions which do not possess at least one court. The result of the spread of the game has been a large number of matches, and, though they were at one time confined to the more exclusive clubs, many business houses and old boys' associations now play regular fixtures.

Guy's has always enjoyed the reputation of being a sporting hospital, and distinction in sport has doubtless helped many of our offspring in building up a medical practice. We feel that the new club will open up yet another social pathway and lead us to yet further contact with the outside world.

Squash has the advantage of offering the maximum of exercise in a minimum of time, and this virtue has attracted the busy house officer, who can stay the drooping of his abdomen with but half-an-hour's play daily. But we would not advise our readers to take up the game from such mundane motives, for few sports yield such opportunity for the development of style and tactical skill. The beginner enjoys his game from the start, and as he gains experience derives the greatest satisfaction from a carefully thought-out rally or the timely execution of a short angle shot.

The recent acquisition by the Clubs' Union of a new standard court has given an added fillip to the game here at Guy's; there is no doubt that this has led to the formation of the club. The book in the College Lodge bears ample testimony to its popularity, and we hope that we shall soon see a second court erected.

We therefore take this opportunity of informing players of the inception of the Squash Rackets Club and advising tyros to lose no time in perfecting their skill at this excellent game.

ONE day last week there appeared, much to our astonishment, four tents on the lawn in front of the Children's Ward. This indeed seemed an innovation and an indication of a more progressive outlook on the part of the Hospital authorities. At first we thought it might be a prelude to the conversion of the Park into a fun fair, with, perhaps, roundabouts and the like on the Nurses' Lawn. On thinking more deeply we came to the conclusion that an attempt was being made to provide the Residents with more habitable summer quarters. On closer inspection, the tents were found to be most beautifully fitted up, even with gauze to keep off the flies. Next morning the vision had disappeared, and when inquiries were made we found that our hopes were ill founded and that the Hospital grounds were being used for the more mundane purpose of exhibiting tents for the benefit of prospective explorers of Alaska or the Equator—nobody seemed to know which. We were relieved to know that the tents were not intended as the new £44,000 private block.

Speaking of quarters for the Residents, we continue to hear rumours of rebuilding of the College and suggested improvements in it are always countered with that plea. At the moment we all look with envy on the new hostel of St. Mary's Hospital, which is provided with, amongst

other attractions, one of the most delightful swimming baths in the whole of London.

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SEVERAL of the Residents are at present running in the present M.B. Marathon. It is a clever and assiduous man who can combine a house appointment with the present University examinations, and he that can render compatible the two incompatibles is worthy of the greatest praise. For the present we can do nothing more than wish the contestants the best of luck and lament with them in the loss of one of our ablest correspondents from the examining board.

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AT a meeting of the Residents, C. A. Clarke was elected President and M. J. Lindsey, Vice-President, after a revote between him and W. L. Ogle.

The Going-Off Dinner will be held on May 15.

Purpura

A Paper read before the Guy's Hospital Physical Society on March 15th, 1934, by D. P. King, Esq., B.A.

MR. CHAIRMAN and GENTLEMEN,—Sir William Osler had something appropriate to say about most clinical conditions, and he describes purpura as "that obscure and interesting manifestation of which we know so much and at the same time so little." This is as true to-day as when he said it, and, although cases of purpura have been described time and time again, little progress has been made in the elucidation of the essential pathology. To understand how purpura is produced we should know something of the normal factors controlling hæmorrhage and the clotting of the blood. The physiologists are frankly divided on the question of the factors governing the formation of the blood-clot and as regards the control of hæmorrhage from the smaller blood vessels our ideas are really mere theories.

It is now generally believed[1] that when blood is circulating it is held in a state of fluid equilibrium by virtue of fibrinogen and prothrombin being linked together or to the serum albumin and globulins. As soon, however, as the blood comes into contact with a foreign surface electrical forces are set loose which bring about alterations in the charge borne by the blood colloids, so that the various links are severed and fibrinogen is set free to react with the thrombin formed by the combination of calcium, thrombokinase and prothrombin. The union of fibrinogen and thrombin yields fibrin, the essential part of the clot.

Thrombokinase is believed to be an enzyme derived either from the surrounding tissue or by the disruption of the blood platelets. It seems that, although blood clot may contract in the complete absence of platelets in cases where the platelets are absent or seriously diminished, the clot fails as a rule to retract and squeeze out serum within the usual time limits, if at all. Failure of clots to retract has been described in conditions where the platelets are quite normal in number, namely, in some cases of pneumonia and carcinomatous cachexia. It is fairly certain, it seems, that the platelets do hasten the rate of clot-retraction, but how is another matter. Perhaps they owe this property to their adhesive nature, which helps to bind the fibrin threads together. It is probable, however, that the relation is much more subtle than this, for clot retraction must certainly depend on the physical condition of the fibrin.

As regards the control of hæmorrhage from the small blood vessels, it is probable that two processes are at work :—

1. Contraction of the endothelium so as to obliterate the lumen of the blood vessel.
2. Blockage of the breach in the endothelial wall with blood clot or platelets.

The function of the platelets in filling in gaps formed in the endothelial wall is regarded by some people as of paramount importance in the control of purpura. This being so, it is necessary to touch on the morphology of the platelets for a moment.

The platelets are small granular bodies about 2 microns in diameter. Normally they number from 200,000 to 400,000 per c.mm. in the blood. There is some doubt as to whether they are living or not, and the matter has not been definitely decided, but from the way their motility, their form and their power of decolorising methylene blue can be modified by external changes, it seems likely that they are living. Prior to the work of Wright in 1906[2] they were thought to be effete particles split off from the erythrocytes or leukocytes. Wright, by an elaborate staining technique, was able to prove their origin from large granular cells in the bone marrow—megakaryocytes. These cells possess many pseudo-podial processes, which, as they mature, become filled with granules and then split up to form platelets, which are liberated into the blood stream. Megakaryocytes are found in the spleen as well as in the bone marrow, so that we must assume the origin of platelets from

the spleen as well. The major function of the spleen as regards the platelets of the blood stream appears to be one of storage and destruction. It has been repeatedly shown that the spleen contains vast numbers of platelets, and an injection of adrenalin, which causes contraction of the spleen, causes a liberation of these platelets into the general circulation. Removal of the spleen in the normal person will cause a sudden rise in the number of circulating platelets, which has been explained on the view that the spleen normally holds the power of counteracting overproduction. After a space of time, which may be anything from a few weeks to a few months, the number of platelets returns to normal again, and this has been explained by supposing that other parts of the reticulo-endothelial system take over the function of the removed spleen. Any major operation is followed by a rise in the blood platelet count, but where, as after splenectomy, the rise reaches a maximum in two or three days, in other major operations the maximum is reached on the 10th day.

It is very difficult indeed to explain purpura on a pathological basis, but it is worth making an attempt. At the present time it is a clinical manifestation occurring in many different pathological conditions, which seem to bear little relation to one another.

In hæmophiliacs, purpura may appear. Here they are usually the consequence of some form of trauma sufficient to damage the blood vessel walls, which we must assume, in the absence of spontaneous hæmorrhage, are perfectly normal. In hæmophilia there is an increase in the stability of the blood proteins which prevents clotting, so that one of the means for controlling hæmorrhage is absent. The purpura occurring in hæmophiliacs is never of the petechial type; it is always of the ecchymosis type. In hæmophiliacs one never sees the spontaneous bleeding from the gums that one sees in some of the idiopathic purpuric conditions. The platelets are always normal in number, even after quite profuse hæmorrhage. Hæmophilia is a disease of the blood plasma transmitted to the male members of a family from one generation to the next. It is necessary to mention hæmophilia merely as an example of a disease, which is characterised by hæmorrhages occurring as a result of a deficiency in the second mechanism for controlling hæmorrhage.

In states of jaundice it is probable that the state of affairs is somewhat similar to that in hæmophilia in so far as the hæmorrhagic tendency is dependent on an aberration in the plasma of the blood and not the formed elements or the capillaries.

The characteristic feature of so many purpuras is the spontaneity of the hæmorrhages and their varying character, which we must now discuss in some detail. It is clear that in the event of microdeficiencies occurring in the endothelium of the smaller blood vessels hæmorrhage would occur. The extent of the hæmorrhage would depend on the number and size of the stomata present, the ability of the formed elements of the blood to fill the breeches and the ability of the individual blood vessels to close down and obliterate their lumen. The usual conception of a human capillary is that of a fine looped connection between an arteriole and venule. Such is the state of affairs in the skin of the nail-bed, and probably other parts of the body. It is easy to understand how damage to the endothelial wall at the apex of the loop could result in a petechial hæmorrhage. In most cases of purpura there must be an actual necrosis of the endothelial wall, for if there was a mere increased permeability one would expect to see more frequently than one does varying degrees of permeability at different stages of the disease in the same individual. In only one group of the purpuras is increased permeability sufficient to cause exudation of serum, associated in the same case with a permeability sufficiently great to allow of hæmorrhage. Usually it is a kind of all-or-none process—a bruise or petechial hæmorrhage appears just as if someone had invisibly punctured a tiny blood vessel. The ecchymoses which one sees so often are usually deeper than the petechial type of hæmorrhage, and it seem probable that this is because the hæmorrhage is occurring from a different set of blood vessels, possibly the venules, for they are known to be quite as permeable as the capillaries under normal conditions, and if they suffered damage it is reasonable to suppose that the resulting hæmorrhage would be greater, because of their wider lumen and possibly poorer ability to contract down.

In addition to the capillary loops between the arterioles and venules there are direct anastomosing blood vessels, which might be the seat of hæmorrhage. It seems, then, on the whole that the different types of purpura seen can be related to different sets of vessels affected, and their relative ability to control hæmorrhage by constricting down. The part played by the platelets in blocking the stomata found is a very doubtful one. In some purpuras the hæmorrhages bear no relationship at all to the number of circulating platelets, and this is sufficient in itself to disprove the hypothesis put forward that purpura appears secondarily to a fall in platelets, and that the hæmorrhages are due to the fact that platelets are unable by their absence to make good stomata

appearing in the capillary endothelium as a normal result of wear and tear. A modification of this theory to explain purpura occurring in the presence of a normal quantity of platelets was that the platelets were so abnormal in quality that they were unable to fulfil their normal function. The platelets are difficult to stain satisfactorily, but no constant aberration has ever been described in their histological appearance in those diseases manifested by purpura, in spite of a normal platelet count.

It seems, then, that the immediate cause of spontaneous purpura is damage to the endothelial wall of the smaller blood vessels. The cause of the damage is different in the different diseases, in which purpura is the prominent symptom.

In an attempt to classify the purpuras it is the custom to divide them into the symptomatic and the idiopathic. This is as false a distinction as was the old division of the anæmias into primary and secondary. It would be safer to divide them into the purpuras of known ætiology and those of unknown ætiology. The classification which follows is based on the belief that they are all symptomatic of damage to the endothelium of the smaller blood vessels, except when the purpuric manifestation is not spontaneous.

A.—Purpura occurring only as a result of trauma, which in the normal person would be followed by no visible damage :—

1. Hæmophilia.
2. Jaundice.

B.—Spontaneous purpuric manifestations :—

1. Conditions in which a satisfactory ætiology is known. The common examples are :—
   - *a*. Septicæmia.
   - *b*. Inf. endocarditis.
   - *c*. Malignant cachexia.
   - *d*. Bacterial toxins.
   - *e*. Chemical toxins.
   - *f*. Scurvy.
2. Conditions in which anaphylaxis is thought to be the cause of the capillary damage :—
   - *a*. Henoch's purpura.
   - *b*. Schonlein's purpura.
3. Conditions in which there is an underlying well-recognised abnormality in the hæmopoictic system.
   - *a*. Leukæmias.
   - *b*. Anæmias, of which aplastic anæmia is the outstanding example.
4. Conditions in which purpuric manifestations are the only symptoms :—
   - *a*. Purpura simplex.
   - *b*. Thrombocytopenic purpura of Werthof :—
     1. Hereditary.
     2. Non-hereditary : Acute ; chronic.

For the purpose of this paper enough has already been said of the Group A, as it is a separate entity altogether. It will only be mentioned in so far as it is sometimes necessary to establish a differential diagnosis between hæmophilia and so-called thrombocytopenic purpura.

To establish a diagnosis of any of the other types it is necessary to perform a few simple tests or examinations, which will be described because of their importance and because of the incompleteness with which they have been done in many of the case reports in the literature.

1. The bleeding time.—There is no way of standardising its measurements, and a control reading should always be made on a normal person, using the same depth of skin puncture and the same needle. The thickness of the cuticle is also, of course, a variable factor, so that only a grossly abnormal bleeding time can be regarded as pathological. When the blood wells up from the skin puncture it should be soaked up by a piece of blotting paper applied carefully so that it does not touch the skin surface and initiate clotting. After the first drop has been wiped away in this manner the finger should be squeezed again so as to produce a second drop, which is wiped away. The process should be repeated until blood no longer appears on pressure.

1. The clotting time.—There are several ways of measuring this. The best way is to wipe away the first drop of blood produced by the skin puncture and to collect the second drop on a platinum wire. The drop of blood should then be made to run up and down the wire until it clots.

3. Clot retraction.—The blood for this should be drawn into a capillary tube which is then put aside and watched from time to time until the clot can be seen to express serum. Clot retraction should begin within half-an-hour and be complete within four hours.

4. The blood platelet count.—This is a laborious process. The method of choice is to collect the blood from a skin puncture made through an isotonic solution of citrate containing brilliant cusyl blue, and then transferring, by means of a pipette, the whole drop to a special counting chamber. The platelets and blood corpuscles are allowed to settle in the chamber, and the number of platelets per 1,000 red blood corpuscles counted. An ordinary red cell count is also performed, and from this the total number of platelets per c.mm. can be calculated. It is claimed for this *intra vitam* method of staining the platelets that there is less likelihood of there being confusion between the platelets and debris.

5. Tourniquet test.—This is a test which is not of much value for differential diagnosis. It is supposed to be a test of the powers of capillary resistance and consists essentially of an attempt to raise the internal pressure of the capillaries by a process of venous congestion. In actual practice in view of the now accepted ability of the capillaries to contract against high pressure, it seems probable that the brunt of the congestion is borne by the venules, which have been shown actually to be more permeable to dyes than are the capillaries. On this hypothesis, a positive tourniquet test is most likely to appear in those cases of purpura in which the venules have been selected for damage rather than the capillaries. Perhaps this explains the absence of a positive tourniquet test in many cases of severe purpura, especially of the petechial type, which, as has been already mentioned, is best explained by damage to the apex of the capillary loops in the skin.

Sir Thomas Lewis has suggested that for purposes of standardising the test a sphygmomanometer band should be placed around the arm and the pressure raised to 70 mm. Hg. and kept there for a period of three minutes.

We are now in a position to discuss some of the clinical features of the main groups of purpuric diseases.

If we consider first the first division of Group B, we find collected together a number of very different diseases, in which a hæmorrhagic tendency can be satisfactorily explained as a result of pure capillary or venule insufficiency. In the septicæmias and infective endocarditis micro-organisms or emboli settle down on the endothelial cells, destroy them, and thereby lead to hæmorrhage. The extent of the hæmorrhage is variable. Some of the larger hæmorrhages are presumably due to destruction of comparatively large vessels. As the disease process progresses, so more damage is done and larger hæmorrhages occur. Typically in the septicæmias the hæmorrhages are petechial as a result of damage, as has been pointed out already, to the apices of the capillary loops in the superficial portions of the skin. In these cases the special examinations all prove negative, and there is no alteration in the bleeding time, clotting time or platelet count. It is only when the septicæmic condition is very severe and all the tissues of the body are damaged in one way or another that abnormalities are found in the special examinations, and then so many factors are involved that for the purpose of elucidating the nature of purpura in general they are of small value.

As regards purpura occurring as the result of septic foci we are on less certain ground, because septic foci have been dragged in to explain so many clinical states. These cases are interesting, though, because, as a rule, the clinical condition fits in so well with what one would expect on purely theoretical grounds. We can visualise the teeth as septic foci liberating toxins which settle down on the endothelial walls, usually of the skin capillaries. There is no increase in the bleeding time, the clot is formed normally and retracts normally, and the blood platelets are not reduced in number. The condition may clear up spontaneously, and if the focus of sepsis is removed the condition will not recur.

There is, as a rule, no general upset in the patient's condition even in the presence of the most widely diffused purpuric rash. An excellent example of such a condition was seen a short time ago in the medical wards. The case was that of a young man admitted at first to the surgical side for some quite minor operation. The purpuric condition was not appreciated until after the operation, which was perfectly satisfactory in every way. When the purpuric condition was recognised he was transferred to the medical side, where some septic teeth were found and removed. The rash began to clear with rest in bed alone. This is often one of the astonishing features of these cases. There is a case in Clinical of a young man with only one leg, which, on admission, was covered with a purpuric rash. On blood examination no abnormality could be found and the tourniquet test was negative both on his leg and on his arm. With rest in bed the condition cleared up, but, as soon as he was allowed up, the rash reappeared, this time in a slightly more petechial form. Some of his teeth were found on X-ray examination to have septic roots, and with the removal of these it is probable, from experience in other cases, that the condition will not recur. The question of producing the rash on getting on to his leg is interesting, because it is an excellent example of what usually happens. One can only suppose that while the patient is in bed there is little strain on the functioning power of the endothelium, and perhaps the damaged capillaries are constricted. When the patient gets out of bed, more of the capillaries are required to function and the damaged vessels are revealed. In this connection it might be interesting to see if the purpura could be produced by calling on the reserve of the capillary resistance by sudden alterations of temperature.

Scurvy is a disease in which the endothelium suffers as a result of a well-defined food deficiency. It is interesting that the vessels which show the damage most markedly are often the embryonic ones, such as those in the metaphysis of the child's long bones and those under the periosteum in

adults. It is only reasonable that these should be the first to manifest the disease, because presumably their powers of resistance are immature. The platelet count is normal, even in the presence of extensive hæmorrhage.

The second division of Group B is often called the anaphylactoid group of purpura. The reason for this is that very often cases in this group manifest signs and symptoms which are attributed to anaphylaxis either at the same time as they have purpura or alternating with purpura. Anaphylaxis is supposed to be bound up with the production of the histamine-like substance which increases the permeability of the capillaries to colloids so that either erythema, urticaria or œdema occur. To give an idea of the clinical picture in these cases the following case is quoted from a paper of Osler's in the *British Medical Journal* of 1914 :—

CASE I

H. Y., æt. 15. He has always been well and strong, with the exception of a tendency from the sixth month onwards to what his mother calls the "bumps." On and off, at intervals of from a few weeks to six months, spots came out over the skin, sometimes like ordinary hives and sometimes like flea bites. He has never had a very severe attack. The mother attributed the condition to indiscretions in the diet. Lately he has had, as a rule, two or three attacks a year, most commonly on the arms and legs. They take two or three days to disappear, and sometimes come out in crops. Early in May he was at Brighton, and he complained of some pain in the legs and wrists. Shortly after May 12th the attack came on with slight fever, and he had to go to bed. The next day he was covered—arms, legs and back of neck—with bright red spots, the individual ones raised with marked erythema between them. They began to fade, and left the skin stained. Every few days there have been recurrences. On the 13th he began to have pain in the abdomen, not localised, not associated with vomiting and not increased by food. During the next few days it became more intense, occurring in paroxysms, and on the 19th he had several severe attacks so that appendicitis was considered. Abdomen was more distended. It was tender in the flanks below the costal border, but not over the appendix. On the 20th, he passed a small mass like orange pulp streaked with blood. Urine was normal. During the following few days he had a pyrexia. The future progress of the case is not recorded.

If nephritis is an anaphylactoid condition it seems that purpura of nephritis should come into this group. The ætiology of nephritis is such a hotly disputed subject that it would be dangerous to pursue the matter further.

In a review of the hæmorrhagic diasthesis in 1926, Letheby Tidy[4] tried to link up all the purpuras as anaphylactoid conditions of varying severity. His hypothesis was this, namely, that in sensitised individuals capillary resistance became diminished and the resulting permeability to colloids allowed œdema or urticaria to occur. This permeability he claimed to be so great in many cases that blood corpuscles are allowed to escape and the phenomenon of purpura produced.

In many cases he claimed that the blood platelets were sufficient in number to fill the minute stomata caused by this micro-trauma to the capillaries. If, however, the number of stomata formed was so great that all the platelets were used up, any further stomata would allow the leakage of the red blood corpuscles, and result in purpura. On this basis he explained purpura hæmorrhagica of Werlhof as merely a severe degree of anaphylaxis, in which the trauma was so severe to the capillary endothelium that practically all the platelets were used up and insufficient were left to stem the hæmorrhage.

This hypothesis was worked out on the basis of experimental work carried out by Bedson on guinea-pigs,[5] in which he found he could reduce the number of platelets by injecting anti-platelet serum. He could produce purpura only if he injected so much serum that not only were the platelets destroyed, but also the capillary endothelium was damaged. Removal of the spleen in these animals seemed to offer protection only by virtue of an increase in the number of platelets which followed the operation, for as soon as the platelet count returned to normal again, which it always does, the animal was as sensitive as ever to the purpura producing anti-platelet serum.

In other words, Letheby Tidy would have us believe that the thrombocytopenia found in some purpuric states is secondary to the capillary damage, and is comparable to the reduction of red blood corpuscles produced in a secondary anæmia. In support of this view he produced evidence to show that the purpura always showed signs of improving before the platelet count. Those cases of purpura which cleared up in spite of a low platelet count he explained by supposing a nice balance between the capillary damage and the platelets, so that there are just sufficient platelets to prevent hæmorrhage, but not enough to raise the platelet count.

If this were the correct explanation of the purpuras of Henoch and Schonlein, the platelets should always be reduced in number during the attacks, but not in between. In point of fact, the blood platelet count is nearly always normal in

these two conditions, even with quite severe purpuric manifestations.

Further, if the purpura was a consequence of the too excessive draw on the platelet reserve by micro-trauma to the capillaries, it would be expected that the platelet count would fall in conditions in which gross hæmorrhage occurs from damage to the capillaries, such as in scurvy.

There seems to be no relationship between the number of platelets and the appearance of hæmorrhages in Henoch's purpura and Schonlein's purpura. In so-called thrombocytopenic purpura there seems to be a vague relationship, but not an absolute one. That is to say that often during the remittent phases that one sees the platelet count is normal, and during the hæmorrhagic phase the platelets are diminished in number, but, at the same time, hæmorrhages may be absent even with quite low counts. Especially is this so after splenectomy, the value of which will be discussed later. The following case serves as an illustrative example :—[6]

	Platelets.	*Bleeding time.*	*Hg.*
March 29, 1924	10,000	60′+	Extensive.
April 2, 1924.....	10,000	6′	Bleeding ceased.
„ 3, 1924.....	10,000	4′	Skin clearing.
	Splenectomy.		
„ 25, 1924.....	13,000	2 hrs.	Petechiasis and rect. membrane bleeding.
„ 27, 1924.....	30,000	3′	Bleeding ceased.
„ 29, 1924.....	36,000	2½′	Petechiasis disappeared.

It may be noticed here that, although there is not a close relationship between platelet count and hæmorrhage, there appears to be quite a close connection between hæmorrhage and bleeding time. It seems most probable that in Henoch's and Schonlein's purpura there is an anaphylactoid condition, in which the smallest blood vessels are for some reason picked out. That usually the anaphylaxis causes more easy exudation of fluid through capillaries rendered unusually permeable, but that sometimes the endothelium is actually destroyed so that hæmorrhages occur. In these cases in which the platelets are reduced and which may closely resemble Werlhof's purpura, it seems credible that the anaphylactoid condition has affected the production of blood platelets in some way or has aided towards their premature destruction.

Cases of this group of anaphylactoid purpura seem to clear up spontaneously. They usually appear in children and, with advancing years, the child usually grows out of them.

In diseases of the hæmopoictic system, which is the next group of purpura in the classification, there may be a very marked hæmorrhagic tendency. So marked may this be in the acute cases that it is sometimes impossible to differentiate between myelogenous leukæmia, aplastic anæmia and acute thrombocytopenic purpura of Werlhof. Why hæmorrhages should occur in the first two is difficult to decide, but it seems probable that anything causing a derangement of the hæmopoictic system is liable to cause a derangement of the vascular endothelium. The part played by the platelets is doubtful. In aplastic anæmia they are always reduced. In myelogenous leukæmia they are sometimes normal and sometimes reduced. The mygakaryocytes are, as a rule, reduced in a similar way to all the other cells of the bone marrow except the granular series of leucocytes. It is probable that the relationship of the platelets to hæmorrhage is the same in the leukæmias and aplastic anæmia as it is in Werlhof's disease, which it is now possible to discuss.

Thrombocytopenic purpura of Werlhof is the main *raison d'etre* of this paper, and it is really a complete subject in itself, so that to discuss it really satisfactorily would require a very much more comprehensive paper than this one makes any attempt at being.

The condition is a very mysterious one and has received many names, most of which were given it in the belief that the cause of the hæmorrhages was the diminution in the number of platelets. The favourite name is thrombocytopenic purpura, but as the platelet count may be practically normal in some of the chronic cases, and because there is no absolute relationship between the degree of hæmorrhage and the number of platelets, it would probably be best to call the condition Werlhof's disease, after the man who first described it in 1735. It could then be regarded as a disease with a doubtful ætiology, but always associated with hæmorrhage and an increased bleeding time, for which no recognised cause can be found such as a leukæmia or septicæmia.

As has already been pointed out, Letheby Tidy made an attempt to place it amongst the anaphylactoid group of hæmorrhagic disorders, and regarded the condition as one in which the vascular endothelium was so severely damaged that all the platelets were utilised to block the stomata in the damaged capillaries and none were left to deal with further damage which occurred. The objections to this hypothesis have already been dealt with, and there is only one more fact to add, and that is the most remarkable curative effect of removal of the spleen in most cases. Removal of the spleen was first performed for this disease by

Kaznelson in 1916 in the belief that the essential cause of the disease was the excessive destruction of circulating blood platelets by over-action of the spleen. The operation produced a dramatic cure, which Kaznelson regarded as strong support for his hypothesis. At the same time Frank put forward the alternative explanation that the spleen produced a myelotoxin affecting the platelets at their source, with a consequent diminution of the output of platelets. Since then it has been repeatedly shown that, although splenectomy is followed by an immediate rise in the platelet count, a return to the previous low level soon occurs without the recurrence of hæmorrhages.

The following is an example in a case quoted by A. O. Wipple.

Woman aged 47. Seen on December 20, 1924. Suffering from a recent history of hæmorrhages. Apart from a few nose-bleeds in the past, she had been perfectly fit.

December 20th.—Platelets practically absent.
January 20th.—Splenectomy. Spleen enlarged.
January 26th.—Platelet count rose to a maximum
February 9th.—Platelets 5,000 only (20 days after operation).
November.—No recurrence of symptoms, although platelets were only 7,000 per c.mm. Bleeding time, 2 minutes.

If only the platelet count did not fall to below normal again after the operation, one could produce a plausible hypothesis to explain the disease. Recently is has been suggested[8] that the disease may be some kind of deficiency disease, and comparable it with pernicious anæmia, in which a deficiency of hæmatinic principle has been fairly conclusively proved, and with some of the vitamin-deficiency anæmias. It is suggested that in aplastic anæmia all the elements of the blood are affected, in the other anæmias the erythrocytes alone are affected and in thrombocytopenic purpura the platelets are affected. The evidence for the hypothesis is the well-known reduction of the number of megakaryocytes in the bone marrow. The idea put forward is that perhaps the missing factor in this condition comes from one of the endocrine glands, possibly the pituitary.

This is quite an attractive hypothesis in a way, because we can assume that the deficiency affects the capillary endothelial cells as well, so as to cause hæmorrhage. Here, again, we are up against the spleen, and why, if removal so affects the equilibrium of the body that the capillaries are restored to normal, does it not cure the thrombocytopenia ?

At the present time, therefore, we are at a loss fully to explain the underlying pathology of the disease and the remarkable results of splenectomy. All that is known is that none of the available hypotheses are of any value, but that it is probable, on the basis of the present day views as to the cause of other purpuric conditions, that leakage of blood through the capillary wall is secondary to capillary damage, and not to an associated diminution in the number of platelets.

Clinically there are all degrees of severity, and the milder types are difficult to segregate from the cases of purpura secondary to septic foci. This is especially true in children. Fortunately, these mild cases tend towards spontaneous cure, and from the point of view of treatment are not very important. They may be called purpura simplex.

There are two main groups of the severe type :—

1. Hereditary.
2. Non-hereditary.

In both groups the hæmorrhagic tendency may appear quite suddenly in a very severe form or may go through remittent phases over a period of many years.

Usually the disease affects children and young adults, but many of the most typical cases appear in older people.

The symptomatology is very variable, and often it is a matter of difficulty to decide whether the case is one of hæmophilia or not. It is here that the various tests, which were mentioned earlier, are so important, and it might be valuable if we summarised in a tabular form the distinctive characters.

	Hæmophilia.	*Werlhof's Purpura.*
Hæmorrhage	Rarely spontaneous.	Spontaneous.
Bleeding into joints	Common.	Rare.
Family history	Always.	Rare.
Bleeding time	Normal.	Increased.
Clotting time	Prolonged.	Normal.
Clot retraction	Normal.	Impaired.
Platelets	Normal.	Reduced.
Tourniquet test	Negative.	Usually positive.

There are cases which seem to fall half-way between the two diseases, but they are rare and may possibly be coincidental. The following is such an example, quoted from Pickering's book on " Blood Plasma."[1]

Case II

This individual is stated to have suffered from profuse bleeding from small wounds during childhood. He came under observation when aged 38 years 4 months. At that time his blood (obtained by venepuncture) remained fluid on glass at 17° C. for 40-60 minutes. Platelet count was 340,000-364,000 per c.mm. Six months later

his blood-clotting time on glass at 17° C. was 3-4 mins., his bleeding time from ear puncture was 3-4 mins., and his platelets numbered 342,000 per c.mm. The periodic variations in the coagulability of the blood found in hæmophilia were thus present. At the age of 40 years petechiæ and ecchymoses appeared, his blood platelets were reduced to 84,000-90,000 per c.mm., and the bleeding time from ear puncture lasted for 17-24 mins. At this date his blood-clotting time on glass at 17° C. varied from 11-12 mins. A year later the external indications of purpura had disappeared, the platelets had increased to 322,000 per c.mm., the bleeding time was 3-4 mins., and the blood-clotting time was 17 mins. at 17° C.

At the age of 41 years 8 months there was hardly any change in his condition, except that his shed blood remained fluid for 33 mins. at 17° C. A return to the hæmophilic state had thus become apparent. One brother was typically hæmophilic, and another brother, who was regarded as normal, was found to have a prolonged clotting time.

The familial type of purpura hæmorrhagica is rare, but recently it has been described in several families, and the subject is reviewed by Dr. Witts in the *Guy's Hospital Reports*.[9]

The disease may present itself at birth, and Dr. Witts describes a family in which four deaths occurred from hæmorrhage of the cord at birth, and all except one of the remainder of the family of 11 had hæmorrhage from the cord of less serious degree. Very often the hæmorrhagic tendency does not display itself till later in life, and it is here that the importance of examining other members of the family must be appreciated, for, up till the present time, splenectomy has not been successful, and is generally believed to be contra-indicated in this familial type. One wonders if this is really so, for up till recently the operation was thought to be contra-indicated in the acute variety of the non-familial type. Marquand, in the Royal Berkshire Hospital Reports for 1933,[10] quotes two cases, however, of acute purpura hæmorrhagica cured by splenectomy, but stresses the importance of massive blood transfusions before, during and after the operation. Perhaps if the familial types received the massive treatment he stresses the results of splenectomy would be more successful. However, the familial type tends to clear up spontaneously, so that the risk of the operation would have to be considered very carefully. More will be said of splenectomy in a few minutes.

There would be no value in going into the symptomatology of the familial type, because it appears to be exactly comparable to that in the non-familial type, which will be described in more detail.

In the acute variety the patient may come to the physician because of spontaneous bruising, uncontrollable epistaxis or bleeding from the gums. More rarely, hæmaturia is noticed or hæmatemesis occurs. Bleeding from the mucous membranes is a very frequent occurrence. On inquiring into the history, no cause can be found, and the patient is at a loss to explain his symptoms. Sometimes the hæmorrhage is most alarming, and to read an extract of one of Marquand's cases will give you an idea of what may occur :—

Case III

Miss A. was a trained nurse, aged 52. Family history not relevant. She had had no hæmorrhagic symptoms in the past. She had suffered from recurrent attacks of vomiting from puberty at 13 to the menopause at 49. At first these attacks had coincided with the menstrual periods ; later they had become more frequent, but they did not prevent her from doing her work.

At the end of February, 1930, while nursing a case, the patient began to feel ill, and noticed purpuric spots on her arms and legs. On March 3rd nose-bleeding started. On March 4th the epistaxis was more severe, and she felt very tired. On the following day she finished nursing her case and consulted her doctor, who referred her to the Royal Berkshire Hospital, where she was admitted on March 7th. During March 8th she suffered from headache and vomited ; these symptoms she regarded as one of her bilious attacks. Bleeding started from the mouth and nose, and, since it continued throughout the day, resisting all local treatment, a transfusion of 600 c.c. of citrated blood was given in the evening. After the transfusion, bleeding ceased until noon of the next day, about 15 hours later. Bleeding then recurred from the mouth and the transfusion incision began to ooze.

On March 10th the patient's condition became very serious ; ecchymoses and purpuric spots had appeared all over the body, and bleeding from the mouth and nose, and from the transfusion incision in the arm, had become continuous. She felt comparatively well after the transfusion ; vomiting, headache and feeling of tiredness had disappeared, and she did not realise the gravity of her condition. On March 11th all the symptoms had become more severe. A transfusion of a pint and a half of citrated blood at 7 p.m. was entirely without effect in checking the hæmorrhage. On March 12th bleeding was continuous all day ; some of the stools showed altered blood, more purpuric spots appeared, and the patient began to

feel ill. On March 13th the number of purpuric spots was increasing so rapidly all over the body that the sister, who was nursing the case, stated that it was almost possible to watch them appearing. The transfusion incisions were oozing continuously, and to such an extent as to soak through all the dressings, including bath towels. It was obvious that the situation was becoming desperate, and that transfusion as a means of controlling the bleeding was useless. It was decided to remove the spleen the same day.

I will reserve the description of the operation for a more suitable moment.

Fortunately, all cases of the disease are not so alarming as this, and in the chronic types one can be pretty sure of a temporary recovery with mere rest in bed.

In the chronic type the patient may go to the physician because of multiple bruises, or, again, epistaxis and hæmorrhage from the mucous membranes. The patient's general condition is quite good, and there is, as a rule, no pyrexia. On going into the patient's history carefully, it will be found that for many years, possibly since early childhood, there have been periods when he has noticed bruises for which he has never found a cause, or he has had recurring nose-bleeds.

During the hæmorrhagic state, the usual clinical tests are all positive, and the blood platelets may be reduced to below 50,000 per c.mm. The bruises then fade quite as spontaneously as they appeared and the hæmorrhages stop. If the platelets are examined now they may still be reduced or, rarely, have taken a sudden jump to 200,000. The power of regeneration of platelets is remarkable, and they sometimes are said to increase by 300,000 per c.mm. within 24 hours. As regards the other tests during the remittance of the hæmorrhage, the findings are again variable. Very often nothing abnormal is found. Unfortunately, very few cases have been reported where daily examinations have been made, but it is generally agreed that the bleeding time and the hæmorrhagic tendency are the only factors which run parallel. That is to say that when the hæmorrhagic tendency is severe, the bleeding time is prolonged, and as the hæmorrhagic tendency disappears, so the bleeding time returns to normal This is explicable only on the basis of the capillary endothelium being unable to deal with micro-trauma. If the bleeding time and platelet count ran parallel it would indicate that the cause of a prolonged bleeding time was due to there being insufficient platelets to make good the damage in the vascular endothelium.

Little has been written on the question of clot retraction during the remittent phases. It is known that poor clot retraction occurs always in the hæmorrhagic periods, even though the platelet count may be over 120,000 per c.mm.

The question of treatment now arises. Kaznelson in 1916 performed the first splenectomy for the condition, and since then an enormous number have been done, and the value of the operation has been reviewed on several occasions. Up till recently it was believed that splenectomy was indicated in the chronic cases, but not in the acute cases or in the hereditary type. A. O. Whipple in 1926 (*loc. cit.*) reviewed a series of 81 collected which :—

8 were operated on during the acute stage, and of which 7 died.

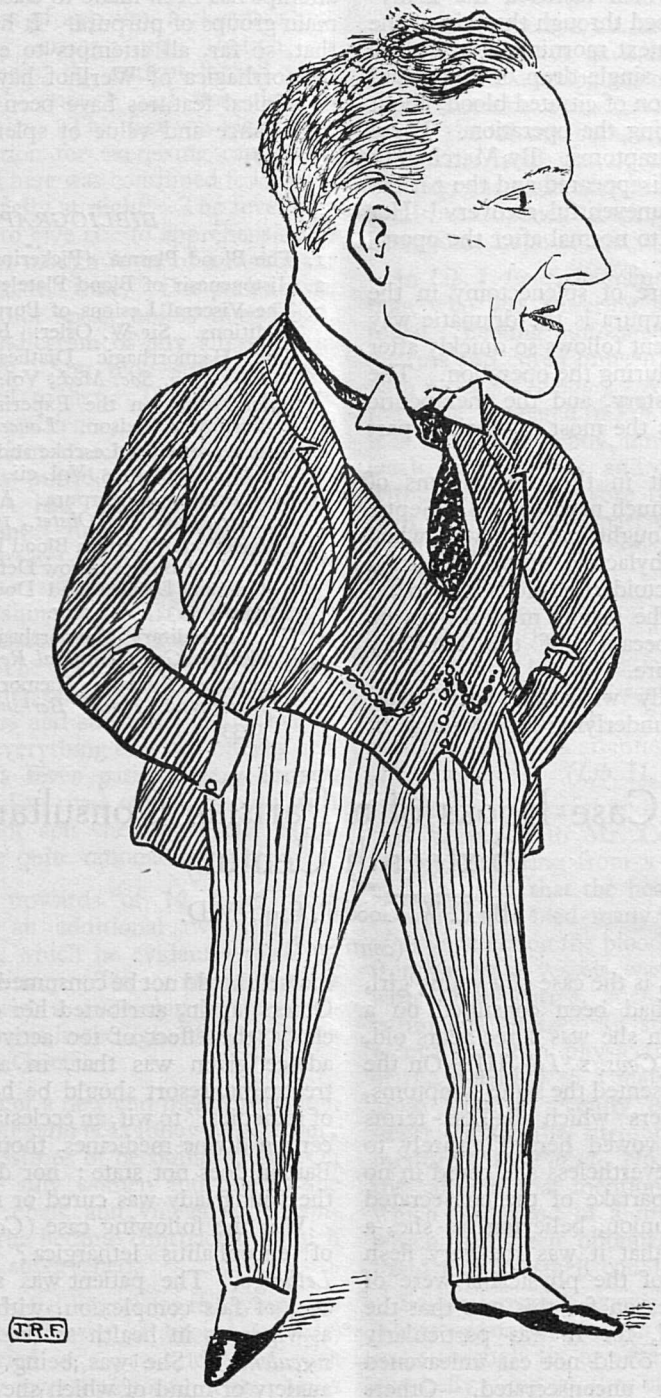
73 cases of the chronic type were operated on, with successful results in 67 and 6 post-operative deaths.

In all the satisfactory cases there was a very sharp rise in the platelet count to figures often above normal within two or three days after the operation, and this was followed by a fall to below normal and even below the figure prior to the operation within 60 days. Sometimes the symptoms disappeared immediately, and sometimes they disappeared gradually with mild exacerbations As has already been pointed out, the operation, when first advised, had a rational explanation, but now it has none.

The problem that now arises is to find out why the operation has been unsuccessful in the past in the acute variety of the disease. When the result is successful in the acute variety, the mere clamping of the splenic artery may be followed by immediate cessation of the oozing of blood from the peritoneum.

Recently, more satisfactory results have been reported for the acute cases, and it has been pointed out by Marquand (*loc. cit.*) that in the past too little attention has been paid to the general condition of the patient, and that if the patient is given massive transfusion the results are likely to be ever so much better. He points out that very often the patient has been operated on while severely anæmic and not in a fit condition for even a quite minor operation. The symptomatology of one of his cases has already been cited, and the description of the operation can now be quoted.

At the operation all incisions were made by diathermy ; the spleen was bound down by fairly firm fibrous adhesions. Very little bleeding was experienced during the operation, and it was particularly noticed that all oozing from the cut surface ceased immediately the spleen had been removed. This remarkable result has been noticed before in one or two instances. A further proof of the immediate effect of splenectomy on the



A. C. H.

hæmorrhage was inadvertently afforded; by chance a safety-pin, which fastened the many-tailed bandage, was passed through the skin of the abdominal wall. The next morning the bandage was undone, and not a single drop of blood had been shed. A transfusion of citrated blood, about 500 c.c., was given during the operation. There was no recurrence of symptoms. By March 18th all purpuric spots had disappeared and the patient made a complete and uneventful recovery. Her platelet count returned to normal after the operation and remained so.

The surprising feature of splenectomy in the cure of this type of purpura is the dramatic way in which the improvement follows so quickly after the operation, or even during the operation. The whole disease is a mystery, and the therapeutic effect of splenectomy is the most mysterious part of it.

As regards treatment in the other forms of purpura, nothing very much need be said. Septic foci should always be sought and removed, when possible. In the anaphylactoid group the usual treatment for anaphylactoid conditions in general are worth trying, but the results must always be regarded sceptically because of the tendency towards spontaneous cure.

To summarise briefly what has been siad: Some of the features underlying hæmorrhage in general have been discussed, and from this an attempt has been made to classify and explain the main groups of purpura. It has been pointed out that, so far, all attempts to explain the purpura hæmorrhagica of Werlhof have failed. Some of its clinical features have been described, and the importance and value of splenectomy have been stressed.

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From the Case-Books of a Parisian Consultant of the Sixteenth Century

By E. W. Goodall, Esq., M.D.

(*continued*)

Cons. xxxiii, *Lib.* III, is the case of a young girl, about whom Baillou had been consulted on a previous occasion, when she was three years old, for persistent nausea. (*Cons.* x, *Lib.* III.) On the second occasion she presented the same symptoms, but, in addition, others which Baillou terms "terrible." She had vowed herself entirely to the service of God; nevertheless she could in no wise bring herself to partake of the consecrated bread in Holy Communion, believing, as she, a devout Catholic, did, that it was the very flesh of the Deity. Some of the physicians were of the opinion that the reason for this was that the bread was unleavened, for it was particularly observed that the girl could not eat unleavened bread, consecrated or unconsecrated. Others inclined to the view that her inability was due to her reverence for the body of our Lord in the bread, and that her conscience pricked her in fear of the judgment of the Almighty in case the holy morsel should not be consumed in a proper manner. Others, again, attributed her condition to melancholy (the effect of too active black bile). The advice given was that, in addition to medical treatment, resort should be had to "the remedy of remedies," to wit, an ecclesiastical ceremony and certain divine medicines, though what these were Baillou does not state; nor does he say whether the young lady was cured or not.

Was the following case (*Cons.* xlv, *Lib.* I) one of encephalitis lethargica? It is headed *De Lethargo*. The patient was a lady 45 years of age, of fair complexion, with ruddy cheeks and as vigorous in health as one could expect (*satis succulenta*). She was being worried with some anxiety of mind of which she could not easily rid herself when, at about the autumnal equinox, when the "constitution" of the season happened to be most unfavourable, she fell ill. The first sign was the appearance of red macules over the

whole body, as of measles or as an indication of a severe, febrile disturbance. There were also physical languor, loss of appetite, listlessness and indifference to her surroundings, though, in ordinary circumstances, the patient looked after her affairs prudently enough and was alert in carrying out her duties. This fact was significant and gave an indication for exercising caution as to the prognosis. There was continued fever with exacerbations, especially at night. The fever was not serious enough to give rise to apprehension in Baillou's mind, even though fever of a malignant type was epidemic at the time. The patient was comatose, and did not speak unless questioned, yet there was no indication of any alteration in her mental capacity. She took sufficient food when it was offered to her. The bowels were relieved only by aperients; the stools were offensive. The patient was bled twice, and the blood was obviously putrid. At the end of ten days the symptoms had moderated and were anything but alarming. But on the 11th or 12th day there was a grave flare-up, namely, very serious depression at intervals, slight delirium, involuntary weeping, a deep flushing of the cheeks, especially the left, and occasional involuntary passage of urine and fæces. The patient died on the 20th day in a profuse perspiration. There had also been general tremors and subsultus of the hands. The patient drank everything that was offered her, but was not, for a fever patient, very thirsty. When she was asked to rinse out her mouth with water she could not spit the liquid out again. She appeared to be quite rational.

Baillou devotes upwards of 14 pages to a commentary, with an additional two pages of notes, on this case, which he evidently regarded as being extraordinary. The commentary is mostly concerned with a discussion of the significance of the symptoms in the light of the writings of Hippocrates and Galen.

" Slimming " is not a new and modern fashion. No. 16 of the *Paradigmata* is as follows : " A very stout woman was desirous of becoming thin. On the advice of some silly women and quacks she dosed herself with chalk and vinegar. In consequence, her pylorus became constricted to such a degree that death supervened."

In *Lib. Parad.* 195, Baillou relates the symptoms of poisoning by the flowers of broom (*genista*) which had been fried in a pan and eaten with much enjoyment by several persons. Three hours later they were seized with stomach trouble, headache, transient vertigo, nausea, vomiting and looseness of the bowels, as if an attack of cholera was coming on; also stupor, fear and surprise. However, after a short time all these symptoms quieted down.

A certain person suffered from a pain in the head which never gave him a moment's peace. It was in the neighbourhood of the coronal suture. Medicaments were useless. An incision was made at the site of the pain, but it afforded no relief. When the head was opened a worm was found between the skull and the piamater. " Had the skull been opened (during life) there might have been some hope of life." (*Lib. Parad.* 19.)

In *Lib.* I, *Epid.*, he mentions the case of a young man who was suffering from an abscess of the tonsil. Feeling suffocated, he both relieved his distress and cured himself by opening the abscess with a dagger (*gladio*). A similar case, if it is not the same, is related in *Lib. Parad.*, No. 101. Here it is stated that a boy, ten years of age, drank too freely of Hippocras, and during the night was ill with a suffocating sore throat. Overcome with pain, he incised the part with a dagger (*gladiolo*) there was a profuse flow of blood, which cured him; *et vixit.*

A girl fell from the top of a ladder and sustained a compound fracture of the skull, which was trephined. The operation was followed by a cerebral hernia, which was cured by the application of astringent powders. " By the blessing of God and the assiduous attention of a prudent surgeon she recovered." (*Lib.* II, *Epid.*)

What a wonderful and unheard-of thing it was that happened to Mr. Colin Scabin, of Calais! He was suffering from a putrid continued fever and, in order that the heat of the fever might be reduced, was bled many times. An hour or so after venesection the blood, which had been drawn from the small vessels, was noticed to be swarming with little worms, such as are often seen in verminous cheese. In spite of this Mr. Scabin recovered. His physicians attributed the cause of the putridity to a malignant exhalation which arose from a recently emptied and foul town sewer, filling the surrounding air with a lethal mixture (*Lib. Parad.*, No. 3). This case may be the same as that mentioned in *Lib.* II, *Epid.*, in which the blood of a man nearly 70 years old, which had been obtained by bleeding, was so fœtid that its smell could hardly be endured.

Baillou records several cases of empyema. There was one of a man in which the pus discharged itself through six or seven openings in the chest and belly; and another of a girl who was the subject of a swelling of the left breast with deeply situated pain and pulsation. It was thought to be an aneurysm. Suddenly the patient brought up some " corrupt matter " from the lung and the

swelling disappeared. (*Lib.* I, *Epid.*). Both patients recovered, the former " miraculously."

A certain nobleman was wounded below the false ribs and the spleen protruded through the wound. The barber-surgeon in attendance did not recognise that it was the spleen. The organ became swollen and diseased. A bolder surgeon came along who, having first put a ligature round the upper part of the organ, removed it with the knife. The patient recovered, and Baillou asks the very pertinent question: " Is the spleen, after all, so necessary? " (*Lib.* I, *Epid.*) This is the second recorded case of successful removal of the spleen. The first is that related by Leornardo Fioravanti, who states that he removed, in 1549, an enlarged spleen from a woman aged 24. About this case there has, however, been much dispute. (*See* Lord Moynihan's book, " The Spleen and Some of its Diseases.")

The following case illustrates a sequence of events which is well recognised in these days. A girl suffered from a sanious discharge from the ear, which suddenly stopped. Then arose pain and heaviness in the head which could hardly be borne, also fever. Treatment was ineffectual and death ensued. *Post mortem* a large abscess of the brain was found. (*Lib.* II, *Epid.*)

In *Lib.* II, *Epid.*, Baillou relates the case of a man who fractured his tibia. Callus formed and the fracture united. After the patient's death from a " general state of dissolution " it was found that the callus had disappeared and the fracture had recurred. Baillou does not state how long after the fracture had united the patient's death took place.

The Prior Claude died of an erysipelatoid inflammation of the throat with inflammation of the lungs, and all because in the first instance he neglected to obtain medical advice as he was afraid of the expense. (*Lib. Parad.* 8.)

A certain nobleman was wounded at the siege of La Rochelle by a bullet which passed through the chest from below the left breast to the lowest false rib on the right side. The wounds healed up, but a year later the patient was seized with an intolerable pain like colic which no treatment could relieve, and he died. At the autopsy it was found that the bullet had perforated the muscular part of the diaphragm. The wound was surrounded with granulations, but had not closed. A portion of the colon had slipped through the opening and become strangulated. Baillou aptly compares this bit of colon to the little fox in Horace, which doubtless my readers, like his, will remember. (*Lib. Parad.* 11.)

A certain man who was the subject of an inguinal hernia acquired a venereal bubo on the same side. It suppurated and was opened with a scalpel. So firm a cicatrix resulted that the hernia was cured. (*Lib. Parad.* 25.)

A nun was tormented with continual pain in the right hypochondrium. She died, and it was found that the weight of a stone in the gall-bladder had caused a little sac in that organ to project and impinge upon the subjacent intestine. The friction between the two viscera had, in Baillou's opinion, been the cause of the pain. (*Lib. Parad.* 114.)

A certain woman was thought to be nine months pregnant. When the hour for delivery came the pain and swelling of the abdomen led to her death. Hardly was the breath out of her body when her parents, anxious that the infant should not perish with the mother, caused the abdomen to be opened. A number of small cysts were found scattered all over the peritoneum, omentum, liver, spleen, lungs and even the heart. These cysts contained a clear, limpid fluid which had no evil smell. What was more wonderful was that everyone of these cysts had a triple coat and could be removed from its site intact, without rupture and escape of the contents. These were evidently hydatids, which, indeed, Baillou calls them. In order to prove how rare hydatids are in other sites than the liver, he refers to an aphorism of Hippocrates, which, however, does not throw any light on that question. We are left to infer that the woman was not pregnant. (*Lib. Parad.* 186.)

(*To be continued*)

An Unusual Strangulated Hernia

By C. H. Reinhold, Lieut.-Col., I.M.S.; Civil Surgeon, Lucknow

(Reprinted from *The Indian Medical Gazette*)

PURDU DIN, aged 35, a Parsi villager, had an inguinal hernia of several years' duration, which became strangulated about the end of April. After eight days of harsh village treatment his scrotum ulcerated and relief came with the formation of a fæcal fistula. He was admitted into the Balrampur Hospital on 4th May, two days after.

He was very emaciated and showed marked toxæmia, and the surroundings of his wound were unhealthy. After feeding and cleaning him up for a few days to improve his condition, I decided to do a lateral anastomosis above the herniated loop, and this was effected through a para-rectal incision on 15th May; the hernia was of the small gut. The patient made an uninterrupted recovery, the wound healing by first intention, but, unfortunately, the fæces continued to pass through the fistula.

A second operation was done on 24th May through an incision along the upper half of the

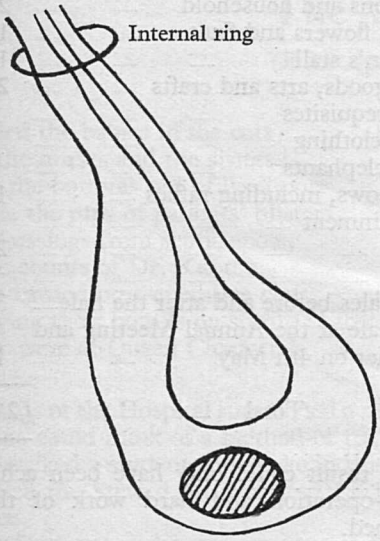

Fig. 1.—Fæcal fistula in scrotum.

inguinal canal, the herniated loop in the canal was cut across and an end-to-end anastomosis of the two upper ends of the gut was effected. This wound also healed without incident, and the bowels at once began to move naturally. The fæcal fistula at once stopped discharging fæces, but a small sinus persisted from which mucus exuded, coming from the remnant of bowel left in the sac.

A third and final operation through an inguino-scrotal incision was therefore undertaken on 14th June and the loop of bowel was removed without sacrificing the integrity of the cord. The man finally left hospital on July 2nd, having put on more than a stone in weight.

All the operations were performed under percaine spinal anæsthesia and the patient never complained of any headache or caused us a moment's anxiety.

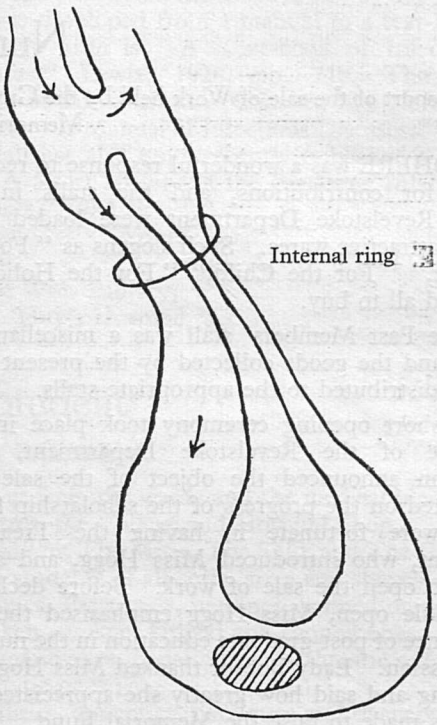

Fig. 2.—Lateral anastomosis above hernia.

I have to thank my house surgeon, Dr. R. S. Gupta, M.R.C.P., for his unremitting attention to the case.

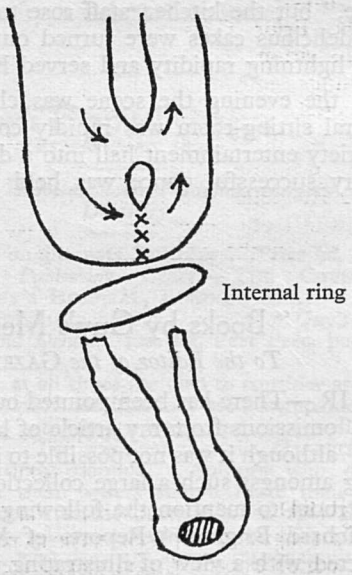

Fig. 3.—End-to-end anastomosis through hernia.

Nursing News

Report of the sale of Work held by the Guy's Hospital Nurses' League in aid of the Cosmo Bonsor Memorial Scholarship Fund

THERE was a wonderful response to request for contributions, and the stalls in the Revelstoke Department were loaded with most attractive wares. Such slogans as "For the Home," "For the Child," "For the Holiday," invited all to buy.

The Past Members' stall was a miscellaneous one, and the goods collected by the present staff were distributed to the appropriate stalls.

A short opening ceremony took place in the lounge of the Revelstoke Department. The Matron announced the object of the sale and reported on the progress of the scholarship fund. We were fortunate in having the Treasurer present, who introduced Miss Hogg, and asked her to open the sale of work. Before declaring the Sale open, Miss Hogg emphasised the importance of post-graduate education in the nursing profession. Lady Bonsor thanked Miss Hogg for coming and said how greatly she appreciated the efforts made to raise the Memorial Fund.

The afternoon passed very quickly and seemed to be thoroughly enjoyed by both buyers and sellers.

The side-shows were very busy, and the non-stop (?) variety entertainment proved a great attraction. For the first time on record the Nurses' Home was eaten "out of house and home," but the kitchen staff rose to the occasion and delicious cakes were turned out of the oven with lightning rapidity and served hot.

In the evening the scene was changed. The general sitting-room was rapidly converted from a variety entertainment hall into a dance hall and a very successful dance was held from 7.30 to 11.30 p.m., organised by Sister Weston and a small committee of nurses.

Below are the approximate amounts made at each stall :—

	£	s.	d.
Donations from Past and Present Nurses	20	0	0
Past Members (miscellaneous)	25	0	0
Provisions and household	26	0	0
Sweets, flowers and fruit	10	0	0
Children's stall	10	0	0
Fancy goods, arts and crafts	22	6	0
Toilet requisites	7	0	0
Sports clothing	9	10	0
White elephants	5	12	0
Side-shows, including raffles	15	5	0
Entertainment	5	0	0
Teas	24	12	0
Dance	9	9	0
From sales before and after the Sale	37	16	0
From sale at the Annual Meeting and Dinner on 4th May	14	10	0
Total	£242	0	0

This result could only have been achieved by the co-operation and hard work of the many concerned.

Past Guy's Nurses sent their contributions out of real gratitude and with affectionate memories of Sir Cosmo.

The total of the Fund to date is £661 12*s.* 3*d.* It is slowly but steadily growing to £2,000, which is our ultimate goal.

F. T.

Correspondence

"Books by Guy's Men"

To the Editor of the GAZETTE

SIR,—There has been pointed out to me a few omissions from my article of last issue, and, although it was not possible to include everything amongst such a large collection, you might find room to mention the following :—

Richard Bright's "Reports of Medical Cases selected with a view of illustrating the symptoms and cure of diseases by a reference to morbid anatomy," 2 vols., Vol. I, pp. 231, Vol. II, pp. 724, Longman, 1827-31, which is kept in the Museum of Antiquities, and, as Dr. Hurst points out, surely the greatest of them all; a wonderful book that every Guy's man should know.

William Saunders (1743-1817) in 1793 published "A Treatise on the Structure, Economy and Diseases of the Liver," being the substance of the Goulstonian Lectures in 1792. This work had four editions, the last of which was published in 1809. An important matter in which Dr. Saun-

ders was concerned after leaving Guy's was the formation of the Royal Medical and Chirurgical Society, and he was the first President in 1805.

I am also asked to mention Walter Moxon's "Pilocerea senilis" and other papers, 3 pl., 262 pp., 8vo, London, 1887, and, although the name of Sir Samuel Wilks was mentioned in connection with pathology, I forgot to mention his book in collaboration with Walter Moxon on "Lectures on Pathological Anatomy."

In 1928 a third edition of Goodall and Washbourn's "Infectious Diseases" was published, revised and partly re-written by E. W. Goodall. The third edition has increased in size by 300 pages and has developed from a manual to a text-book. The new title is "A Text-book of Infectious Diseases," Lewis, 1928, pp. 718. The first edition of this work was published in 1896 under the title "A Manual of Infectious Diseases." Dr. Goodall has also quite recently published a book on "A Short History of the Epidemic Infectious Diseases," 1934.

Yours, etc.,
G. A. R. WINSTON.

The Wills Library,
Guy's Hospital, S.E.1.

The Stewed Student

(With Apologies to Robert Browning)

BUGS!
They killed the babies in the cots
And bit the nurses and the sisters;
Knocked the bottoms out of lysol pots
And broke the tops of patients' blisters;
Ate the dressings from septic spots,
Upset the counts of Dr. Knott's,
And even caused post-operative clots
By emptying their bowels on sterilised towels
As if they were at Queen Charlotte's.

So the Lords of the Hospital summoned a meeting,
But no one could think of a method of treating,
When in walked a student and spoke in this wise:
"I'm called the Stewed Student, and I'll rid you of lice
If you'll promise to make me a surgeon to Guy's."
The Lords agreed, with a secret laugh—
Just fancy a student on the Hospital Staff!
Into the Park the student strode
And on his stethoscope he blowed,
Till suddenly there came a grumbling,
And the grumbling grew to a mighty rumbling,
And out of the wards the bugs came tumbling—
Fat bugs, clammy bugs, Pat bugs and Sammy bugs,
Tight bugs, brawny bugs, Bright bugs and Corny bugs;
Gay young surgicals, grave old medicals,
Cocking tails and twisting pedicles,
Followed the Student without a slip
And disappeared inside the Ship!

"My reward, if you please," the Student said,
"For now you can sleep undisturbed in bed."
But the Council merely shook its head
And bade him go to the Dean instead.
At this the Student rose in wrath
And on his stethoscope blew forth,
Till out from the wards and the medical block,
Theatres, the College and Hospital Shop,
The Miller, The Mitre, The Ship, and The Grapes
Came students of all sorts, sizes and shapes—
Tall ones, short ones, big ones, banned ones,
Drunken, sunken, kipped and canned ones,
Rheumatic ones, hepatic ones, asthmatic ones and static ones;
Syphilitics, epileptics, paralytics and dyspeptics,
Cantab. lads in old school-ties
And awful cads with toad stool eyes;
All came strolling on sluggish feet
And followed the Student into the street.

Alas, for Guy's! Her students are missed;
No longer is there a waiting-list.
And the Dean is offering with many sighs
To all and sundry, a Scholarship Prize.

W. S. N.

Guy's Hospital Gazette
(ESTABLISHED 1872)

A Journal of Hospital News, Medicine, Surgery and Dentistry

Published on alternate Saturdays. Price 9d.
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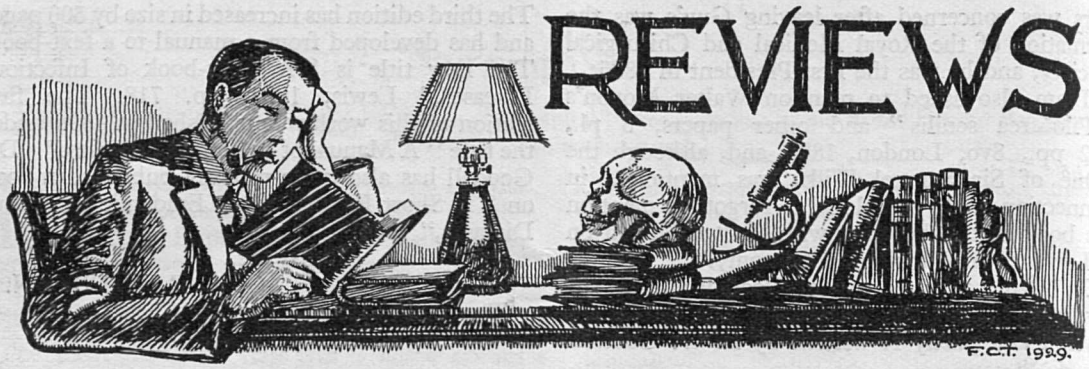
Annual Subscription, including *Directory of Guy's Men (Medical and Dental)*, **12s. 6d.** Post Free, payable in advance.
The Editor will, at all times, be glad to consider articles or sketches, provided that they are accompanied by the writer's name and address, not necessarily for publication. The payment that the GAZETTE can offer is merely nominal. Authors who desire reprints of their papers should make their own arrangements with the printers when they return their proofs. All contributions to be addressed to *The Editor*, who does not accept responsibility for the views expressed by contributors.



Physical Treatment by Movement, Manipulation and Massage. By JAMES MENNELL. Published by Messrs. J. & A. Churchill, Ltd. Pp. 600. *Price* 21*s.*

THIS is, in effect, the third edition of the author's well-known book, "Massage: Its Principle and Practice." The change of title is necessitated by the much wider field which this new edition covers. New chapters on Joint Manipulation, Referred Pain from the Back, and Faradism are included, with many new illustrations, X-rays and diagrams. The fascinating line drawings included are of great value in their clearness and conciseness.

This book is up to the usual high standard and down to the usual reasonable price of this publisher's, and will, without doubt, keep its place as the standard text-book on this subject.

The Chances of Morbid Inheritance. By Various Authors. Edited by C. P. BLACKER, M.A., M.D., M.R.C.P. Published by Messrs. Lewis & Co., Ltd. Pp. 450. *Price* 15*s.*

THE object of this book is to help the general practitioner in giving a eugenic prognosis—that is, assessing the chances of inheritance in disease in which heredity either directly or by predisposition is a recognised factor.

It is a symposium by specialists in these diseases, seven of whom work at Guy's, with a concise and clear exposition of Genetic Principles by Professor Ruggles Gates, and detailed instruction in the preparation of pedigrees on which individual prognosis will largely depend. The book is edited by Dr. Blacker, the secretary of the Eugenic Society, and is introduced by Sir Humphry Rolleston, Bart., the President of the Society.

The book is essentially scientific in outlook, without trace of social propaganda, and clinical in treatment without unfounded insistence on animal experiment. It gives a clear picture of the recent advance and present position of the study of heredity in disease and shows the difficulty of attaining accurate knowledge in man with his varied environment, longevity and rarity of in-breeding and dispersion of family. Many of the rarer diseases, however, especially those affecting the nervous system, special senses and the blood, follow definite Mendelian principles, and in these accurate prognosis and definite advice can be given. The commoner diseases, such as diabetes and epilepsy, and it is in these where advice is most likely to be sought, inheritance has not been proved to follow definitely a dominant recessive or sex-linked character, but reliable advice can be given on the statistical evidence already collected. It is here that the practitioner can assist in the consolidation and advance of knowledge by using his opportunity of studying disease in families over long periods.

Not only will this book be invaluable to him in answering questions which are sooner or later bound to be asked, but it will stimulate interest in every student of medicine, and, it is hoped, encourage research and the accumulation of further evidence in this important field.

The book, well printed and with numerous charts, is very easy to read for a symposium, and there is no overlapping. For such an important and authoritative book the price is very moderate.

Midwifery for Nurses. By HENRY RUSSELL ANDREWS and VICTOR LACK. Published by Messrs. Edward Arnold & Co. Pp. 268. *Price* 6*s.*

THIS is an excellent book for nurses studying for the Examination of the Central Midwives' Board. The style is simple and concise, and complete yet brief chapters are given on all the different aspects of a midwife's work. Emphasis is laid on the nurse's responsibilities and details of nursing treatment and lucid explanations given where necessary. The chapters on ante-natal and

post-natal care and the four chapters on the infant are particularly helpful.

The book can be recommended with confidence to those nurses taking a course in Midwifery.

A Short History of Physiology. By K. J. FRANKLIN, D.M. Published by Messrs. John Bale, Sons & Danielsson, Ltd. *Price* 3*s*. 6*d*.

THIS book is one of a series of "Short Histories." In 116 pages the author describes the whole of the history of physiology over a period of 2,500 years. It stands to reason, therefore, that the subject matter is considerably compressed, and the book can attempt to be nothing more than an introduction to the beginner or a summary for the advanced student. In spite of the enormous span of years covered in so few pages, the book makes very interesting reading. This is especially true of the earlier part, where the author deals with the discoveries and beliefs of the ancient Greeks and Romans and points out how they influenced thought almost to within modern times. We can recommend this book as an introduction to the subject.

Vital Cardiology. By BRUCE WILLIAMSON, M.D. (Edin.), M.R.C.P. (Lond.). Published by Messrs. E. & S. Livingstone, Ltd., Edinburgh. *Price* 15*s*.

THE author of this book has attempted to put before the general practitioner, in an easily readable form, some of the principles underlying the treatment of cardiac conditions in general practice, where all the amenities for detailed investigations are not available.

The book is divided into four sections, the first of which deals with the physiology of the conduction of the cardiac impulse and of the strength of contraction. The second describes the cardiac conditions commonly met, and here the author stresses the relationship between the cardiac rate and coronary circulation. He points out how an increase in the pulse rate tends to diminish the coronary flow. He is in accord also with most other authorities in stressing the importance of the condition of the myocardiac as opposed to valvular defects. In the third part he takes the symptoms of cardiac failure individually and describes how they arise and what significance they bear to prognosis. The last part of the book is devoted to treatment. Here he stresses the importance of adequate rest in all cardiac failure, and then describes the best way of dealing with cardiac œdema. His last chapter is devoted to Digitalis Therapy, and here he deplores the haphazard way in which digitalis is so often used.

The whole book is extremely clearly expressed, and few will disagree with the lines of treatment which he advocates.

The Cancer Problem and its Solution. By HASTINGS GILFORD, F.R.C.S. Published by Messrs. H. K. Lewis & Co., Ltd. *Price*, Cloth, 2*s*. 6*d*.; Paper, 1*s*. 6*d*.

THE author of this book stresses the amount of knowledge which has accumulated around the problem of cancer, and he feels that the time has come for a review of the subject, so that the wood may be separated from the trees and the path of future research guided into the most promising channels. He himself believes that the cancer cell arises from embryonic cell rests, which, on the receipt of an adequate stimulus, are given a chance of reproducing when degeneration sets in in the rest of the body. He pushes his theory even further, and claims that, as we foster the degenerate members of the race, so cancer will go on exacting a greater and greater toll of human life.

He compares the cancer scourge to the typhoid and plague epidemics of past generations, and believes that the future progress must lie along the lines of prevention first of all of the degenerative tendencies in our modern civilisation and then of the activating causes of cancer, which in many cases are well defined.

Handbook of Midwifery for C.M.B. Students. By W. O. GREENWOOD. Published by Messrs. John Bale, Sons & Danielsson. Pp. 97. *Price* 8*s*.

THE author of this book states in his preface that the book is intended for pupil midwives and to refresh the memory of the practising midwife in an odd half-hour. For the second purpose it would appear to be admirably suited, but the matter seems to be too condensed for the pupil who has no previous knowledge of her subject. The diagrams are excellent.

Notice

The Innominate Club

The Sixth Annual Dinner will be held on Friday, June 1st, at the Trocadero Restaurant. Members wishing to attend please inform the Hon. Secretary, G. T. Hankey, 32, Gloucester Gardens, Hyde Park, W.2.

Sport

Rugby

Review of Season, 1933-34

AT last Rugger is at an end, and it is possible to give a short review of the past season. A glance at the results will show that once again we have lost more matches than we have won, but it is only fair to take into consideration the fact that we have a large number of provincial matches, and on occasions it has happened that the long journey, the difficulty in fielding a full team, or the misguided interpretations of the local referee have served to lower our chances even before the match has begun.

In spite of this due credit should be given for our victories over the Old Blues, Portsmouth Services, London Scottish and Aberavon, and the games we had with the Harlequins, Blackheath and Cambridge University were closer than the score would suggest.

Although undue prominence is often given to Cup Ties, it would not be out of place to comment on the two matches against St. Mary's in this year's Semi-Final. Of recent years the deadly tackling and traditional over-keenness have been inclined to produce a dull and scrappy game, and this has had an effect on the " gate," which, in the past year or two, has not been quite up to former levels.

The matches against St. Mary's this year will have done much to counteract this effect. Rarely has such delightful football been witnessed between two hospital sides, and the excitement of these two games must have added more than one grey hair to some of our staunch supporters. It was a great disappointment to be deprived of the Cup, but this can only be but a temporary lapse, and we are all the more determined to regain it next year.

Much of the success of the season is attributable to the able captaincy of J. E. Giesen. He has played consistently well the whole season, and his knowledge of all phases of three-quarter play well merited his selection for the Barbarians in their tour of Wales at Easter. He is to be congratulated on the way he has led the team both on and off the field.

Our congratulations are also due to P. C. Alexander and C. G. Wright on playing in the English Trials. They make an ideal pair on the right wing—the one possessed of that burst of speed which will penetrate almost any defence, and the other of that elusiveness and determination to finish off the movement. It is a pity that the Selectors did not think fit to play them together.

The pack was once again on the light side, but that did not prove a great disadvantage in the tight, as the small front row were able to get under their opponents. In the line-outs they were considerably handicapped, and it is here that improvement is hoped for in the future.

It is a tragic thought to realise that we have already seen the last of four stalwart members of the team. T. Morgan, who was Captain two seasons ago, R. A. P. Hogbin, R. J. Drummond of the forwards, and A. G. Johnson of the outsides, have all seen fit to move into other spheres of life. They have played regularly for so many seasons that it is difficult to realise the loss that we have sustained. Many of the successes of the past few years can be directly traced to their individual prowess at one time or another, and the Hospital owes a great deal to them for the position it now holds in Rugger circles.

There are some who say that the supporters at Honor Oak Park are sure to dwindle. Indeed, one can almost imagine people asking, " And who is going to take the place of Morgan, a first-class dribbler, a man who even sells himself a dummy, and who has never yet been seen to shove in the scrum; or Hogbin, who normally takes on four men in the line-out and then takes devilish glee in kicking goals from the touch-line; Drummond, who does not enjoy Rugger unless he has some fracas with an opponent—or the referee; or Johnson, who looks as though he loathes the game, but plays quite well all the same? " They might well ask!

Fortunately, we had the opportunity of playing some of the Junior members in the First, who, although they may not have exhibited all the above characteristics, showed every sign of developing in the future.

New fixtures for season 1934-35 have been arranged with the Army, Bedford, Aldershot Services, University of London, and the Old Whitgiftians, and by the time September comes round it is hoped that old and new members alike will be ready to do battle once again.

Season 1933-34

THE season of 1933-34 being completed, I have pleasure, as in past seasons since the war, in enclosing chart and statistics of the 1st XV performances.

GUY'S HOSPITAL 1ST XV.

SEASON 1933-34

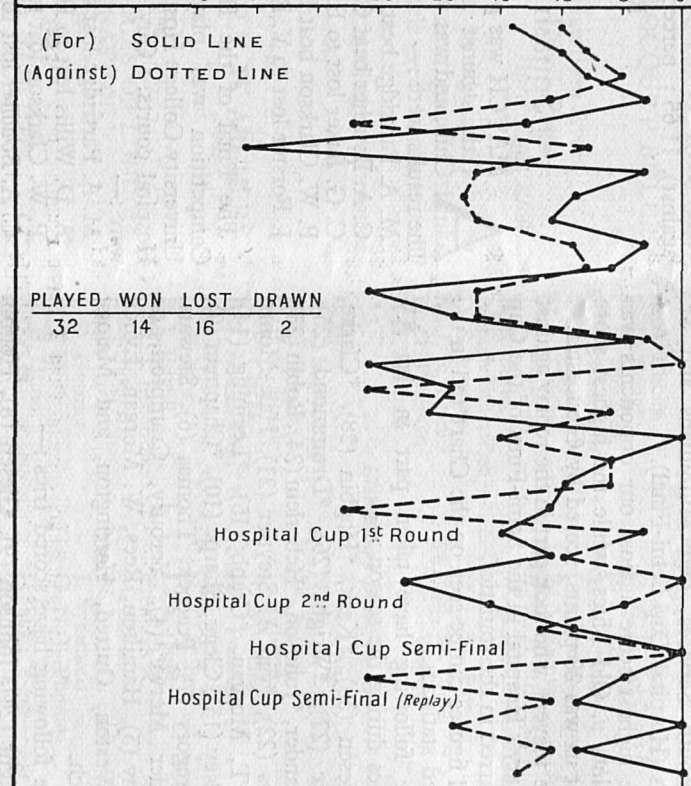
Average Points (For) **11·0**

(For) Total Points **355**

— Percentage — **46·87**

Average Points (Against) **11·65**

(Against) Total Points **373**


Points
45 40 35 30 25 20 15 10 5 0
(For) SOLID LINE
(Against) DOTTED LINE
Hospital Cup 1st Round
Hospital Cup 2nd Round
Hospital Cup Semi-Final
Hospital Cup Semi-Final (Replay)

PLAYED	WON	LOST	DRAWN
32	14	16	2

OPPONENTS	DATE	Gd	Points For	Points Against	SCORE For G	SCORE For T	SCORE Against G	SCORE Against T	TRIES	GOALS
Catford Bridge	Sept. 16	H	14	10	2+	2	2	–	Johnson, Robin Clarke.	Hogbin 2.+
Bath	" 23	A	10	8	2	–	1	1	Wright, Lindsey.	Hogbin 2.
Plymouth Albion	" 30	H	8	5	1	1	1	–	Wright, Heberlien.	Hogbin.
Portsmouth Services	Oct. 7	A	3	11	–	1	2*	1	Wright.	
Northampton	" 12	A	13	27	3ØØ	–	3	4	Peacock.	Kark, Giesen 2.ØØ
Old Blues	" 14	H	36	8	5Ø	4	1	1	Steytler 2, Wright 2, Johnson 2, Giesen 2.	Alexander 4, Giesen.Ø
Gloucester	" 21	H	3	17	1+	–	3Ø	1		Hogbin+
Harlequins	" 28	A	9	18	2++	1	4+	–	Wright.	Hogbin 2++
Blackheath	Nov. 4	A	11	17	2+	1	1	4	Johnson, Wright.	Hogbin 2+
Coventry	" 11	A	3	9	1+	–	1+	2		Hogbin+.
Cambridge Unv.	" 15	A	6	8	1+	1	1	1	Clarke.	Hogbin+
Rosslyn Park	" 18	H	26	17	5+	1	4+++	1	Wright, Alexander, Johnson, Giesen, Bowles	Hogbin 5.+
Army XV	" 25	H	19	17	2	3	3Ø	1	Wright 3, Alexander, Hogbin.	Hogbin 2.
Richmond	Dec. 2	A	4	3	1Ø	–	–	1		Thomas.Ø
Portsmouth Services	" 20	H	26	0	4	2	++Ø	–	Johnson 2, Giesen 2, Wright, Hogbin.	Hogbin 4.
Birkenhead Park	" 23	H	19	26	3ØØ	2	5	2	Gregory, Kark, Hogbin.	Giesen,Ø Thomas,Ø Hogbin.
London Scottish	" 30	H	21	6	3	2	1+	1	Wright 4, Alexander.	Hogbin 3.
O.M.T.S.	1934 Jan. 6	H	–	15	–	–	–	5		
Birkenhead Park	" 13	A	6	6	–	2	–	2	Kark, Hale-Monro.	
Old Leysians	" 20	A	10	6	2	–	1+	1	Gregory, Hogbin.	Hogbin 2.
Gloucester	" 27	A	11	28	2+	1	4Ø	3	Alexander, Hogbin.	Hogbin 2.+
St. Georges Hosp	Feb. 1	N	15	3	–	5	–	1	Wright 3, Hale-Monro, Alexander.	
Aberavon	" 10	H	11	10	3++	–	2Ø+	1	Giesen.	Hogbin 3.++
Old Millhillians	" 17	A	23	0	4	1	–	–	Giesen 2, Wright 1, Johnson, Alexander.	Hogbin 4.
London Hospital	" 19	N	16	5	3+	1	1	–	Wright 3.	Hogbin 3.+
Plymouth Albion	" 24	A	9	12	1+	2	1+	3	Wright, Clarke.	Hogbin+
St. Mary's Hospital	" 27	N	–	–	–	–	–	–		
Rosslyn Park	Mar. 3	A	5	26	1	–	4	2	Hogbin.	Hogbin.
St. Mary's Hospital	" 8	N	9	11	2Ø	–	2+	1	Johnson.	Hogbin, Giesen Ø
Leicester	" 10	A	0	19	–	–	2	3		
Old Cranleighans	" 24	A	9	11	2++	1	1	2	Hogbin.	Hogbin 2.++
Aberavon	April 7	A	0	14	–	–	1	3		

+ Penalty Goal. Ø Drop Goal. * Goal from Mark.

The chief event of the past season were the splendid and hard games against St. Mary's Hospital in the Hospital Cup, when, after a replay, we were beaten 9—11 in the semi-final.

Some good hard club games were played, notably *v.* Aberavon at Honor Oak Park, the result being a win for us, 11—10.

With regard to the general figures, the averages, etc., are lower than the preceding season; 32 games were played, of which four were Hospital Cup matches. Of the original fixture list, five matches were scratched, due to hard grounds, etc., these being: Aberavon and Old Alleynians (away); Coventry, London Irish, and Cambridge University (home). The Bath fixture at Honor Oak Park for November 25th, 1933, was not played, due to a misunderstanding, an Army XV being our opponents on that date. Extra fixtures were made with Old Cranleighians and Aberavon (away).

Interesting items of note, if these records are correct: Hogbin again was top scorer (128 points), this score being even higher than the previous season (108 points), when he was also top scorer, while the captain, Giesen, played in all matches, with two exceptions, *i.e.*, *v.* Blackheath and Old Cranleighians—a good record.

We failed to score on four occasions, *v.* Old Merchant Taylors, St. Mary's (Hospital Cup Semi-Final), Aberavon and Leicester, while our opponents failed to score on three occasions, *i.e.*, Portsmouth Services, Old Millhillians and St. Mary's (Hospital Cup Semi-Final).

The highest score against our opponents was 36 points *v.* Old Blues, while the highest score against us was 28 points, scored by Gloucester.

The players who took part in the replay against St. Mary's Hospital in the Semi-Final of the Cup are starred in the statistics.

Full figures can be seen on the Chart and in the detailed statistics.

The following have taken part in 1st XV matches during the season :—

*Giesen (30), *Kark, *Hogbin (28), *Clarke, *Darke (27), *Wright (26), *Drummond (25), *Alexander, *Johnson, *Heberlein (24), Robin (23), Bowles (22), *van A. Steytler (21), Hale-Monro (17), T. Morgan, *Crabb (15), *Leeming (14), *Lindsey (13), Clegg, Sharpe (10), *Chapman (9), de Gregory (7), Peacock, Thomas (6), Stewart, van der Merwe (4), Yerbury, Crampton, de Gruchy (3), Hamilton, Rees, W. Morgan, Lynch (2), Weston, Outred, Harrington, and Malone (1) each.

The following have scored tries :—

Wright (24), Johnson (9), Giesen (8), Hogbin (7), Alexander (6), Clarke (3), Kark, van A. Steytler, de Gregory and Hale-Monro (2), Bowles, Robin, Lindsey, Heberlein and Peacock (1) each.

The following have scored goals :—

	Tries Converted.	*Drop Goals.*	*Penalty Goals.*
Hogbin	31	—	15
Giesen	—	5	—
Thomas	—	2	—
Alexander	4	—	—
Kark	1	—	—

making a total of 70 tries, 36 tries converted, 15 penalty goals and 7 drop goals. Total points, 355.

Our opponents' score was as follows :—

82 tries, 34 tries converted, 12 penalty goals, 5 drop goals, 1 goal from the mark. Total points, 373.

Season.	*P.*	*W.*	*D.*	*L.*	*Points. F.*	*A.*	*Per cent.*
1926-27	34	18	3	13	371	294	57.35
1927-28	26	12	3	11	190	206	52.0
1928-29	30	11	1	18	220	404	38.3
1929-30	28	12	1	15	322	311	44.7
1930-31	28	13	2	13	306	289	50.0
1931-32	28	14	0	14	295	324	50.0
1932-33	30	14	1	15	374	347	48.3
1933-34	32	14	2	16	355	373	46.87

Completed figures for season 1933-34 are :—

Played 32, won 14, drawn 2, lost 16. Points for, 355; points against, 373. Average points per game (for), 11.00; average points per game (against), 11.65; percentage, 46.87.

ROY C. HOLLOWAY.

Squash Rackets

A MATCH was played on Saturday, March 17th, against the De Havilland Flying Club, and was won by the Hospital, 3—2. The results were :—

M. A. Partridge beat A. B. Harford	3—1
C. A. Boucher beat C. D. Burn	3—1
C. G. Baker lost to E. F. Thomas	2—3
P. W. Clarkson beat B. W. P. Roberts	3—2
J. Forster lost to V. R. Moon	1—3

The Final of the Hospitals' Squash Rackets Competition was played between Guy's and University College Hospital on the King's College Hospital courts. Guy's lost, 0—5. The results were :—

M. A. Partridge lost to J. C. Gregory	1—3
A. D. Willis lost to H. M. Chaffel	1—3
P. W. Clarkson lost to P. Laurant	0—3
C. A. Boucher lost to A. L. Gardham	0—3
R. A. P. Hogbin lost to J. Chaffel	1—3

Hospital Information, etc.

Notices

Guy's Hospital Clubs' Union

ADDITIONS TO RULES

In accordance with Rule 22 of the Clubs' Union, Notice is hereby given that, at the next meeting of the Clubs' Union Council, the following motions will be under consideration :—

1. " That the following addition to the Rules of the Clubs' Union shall be made, to be known as Rule 15 (*a*) :—

'The Council shall have power to admit as Honorary Members for the Day Members of Teams visiting the Clubs' Sports Ground. The names of all Honorary Members so admitted shall be entered in a Register kept in the Pavilion. The Council may delegate their powers under this Rule.' "

2. " That a Squash Rackets Club be formed as a Constituent Institution of the Clubs' Union."

N. L. ECKHOFF, *Hon. Sec.*,
Guy's Hospital Clubs' Union.

Mrs. Archer's Testimonial Fund

This Fund has now been closed and, as a result, a cheque for £58 10*s.* 6*d.* has been handed to Mrs. Archer. The following letter of thanks has been received.

F. BOCQUET BULL.

29, Hamilton Avenue,
Ilford, Essex.
April 20th, 1934.

Dear Mr. Bull,

Will you please convey to all those who so generously subscribed, my most grateful thanks and deep appreciation of their great kindness and good wishes.

Believe me, I have nothing but happy memories of my days at Guy's.

Once again thanking you all.

Yours very sincerely,
EMILY M. ARCHER.

Pass List

SOCIETY OF APOTHECARIES OF LONDON.
FINAL EXAMINATION.
April, 1934.

Surgery.
A. E. Ginn.

Medicine.
*T. Morgan.

UNIVERSITY OF CAMBRIDGE.
BACHELOR OF MEDICINE AND SURGERY
(M.B., B.Ch.).
Alan Bowen-Davies.

UNIVERSITY OF OXFORD.
M.D.
April, 1934.
F. J. Sale.

CONJOINT BOARD.
PRE-MEDICAL EXAMINATION.
March, 1934.

Chemistry.

R. A. Abbey
F. E. Barlow
G. C. Bough
W. H. Bransom
W. E. R. Budd
J. A. Cotterell
E. P. Cutler
L. G. W. Dewey
A. E. J. Etheridge
D. S. Foster
M. J. R. Franks
H. D. Freeman
J. D. Harmer
R. E. Hunot
D. A. H Johnson
H. B. King
E. C. Lewis
D. W. Mayman
A. Middleton
L. J. Moir
A. Pearce
R. H. F. Pearce
R. A. Ramsay
F. W. B. Rilstone
W. A. de C. Shearman
A. Southwell
D. F. Steven
E. A. St. H. Tweney
D. L. L. Walters
J. M. W. Wells
W. F. J. Weston
G. S. Wigley
R. A. Zorab

Physics.

R. A. Abbey
G. C. Bough
C. H. Blockley
W. H. Bransom
W. E. R. Budd
N. F. Clarke
J. A. Cotterell
E. P. Cutler
A. E. J. Etheridge
D. S. Foster
M. J. R. Franks
H. D. Freeman
J. D. Harmer
R. E. Hunot
D. A. H. Johnson
E. C. Lewis
A. Middleton
L. J. Moir
R. A. Ramsay
F. W. B. Rilstone
W. A. de C. Shearman
D. F. Steven
D. L. L. Walters
J. M. W. Wells
G. S. Wigley

Elementary Biology.

E. Allen
A. C. S. Barnard
G. C. Bough
C. F. H. Bulow
N. F. Clarke
E. J. A. Clarkson
N. Cleovoulon
G. F. Daws
F. J. Edgell
A. E. J. Etheridge
D. S. Foster
D. D. Gross
J. D. Harmer
R. J. Healey
R. E. Hunot
L. James
M. R. C. Kemp
A. B. Lennie
N. W. R. Lucas
J. Lynch
D. J. Lyon
R. W. Marston
A. J. Patenall
L. J. Price
B. T. C. Probert
L. A. Quick
F. W. B. Rilstone
M. Shaw
W. A. de C. Shearman
J. Symmons
G. N. J. Thomas
J. E. C. Thorpe
D. J. Du Toit
A. H. G. Trevanion

G. M. Turner
C. W. Turner
E. A. St. H. Tweney
H. J. Voss
J. M. W. Wells
W. E. J. Weston
G. S. Wigley
E. Williams
G. L. M. Williams

FIRST EXAMINATION.

SECTION I.

Anatomy and Physiology.

†M. R. Blair
*N. J. Burnand
V. Drosso
C. H. Edwards
P. H. K. Gray
†F. L. Ingram
†D. J. A. Jones
A. D. McDonald
N. R. McEvoy
R. F. Parfitt
†T. H. Steele-Perkins
*L. P. Symons
F. A. J. Woodland

* Physiology only. † Anatomy only.

FIRST EXAMINATION.

SECTION II.

Pharmacology and Materia Medica.

W. J. Gardner
R. O. Holland
E. Kaplan
D. N. Leeming
L. G. Lyle
P. D. Lynch
C. S. Pitt
F. D. Truax
F. A. J. Woodland

CONJOINT BOARD.

FINAL EXAMINATION.

April, 1934.

Pathology.

R. W. D. Brownlie
B. B. Bridges
W. W. Cashmore
A. P. Dale-Bussell
G. C. Denny
I. Finer
J. R. Forbes
C. E. M. De Gruchy
J. E. Giesen
T. H. Hills
G. H. W. Keates
F. B. Lake
J. F. Lockwood
W. J. Mitchell
C. W. F. Outred
J. A. Sidebottom

Medicine.

*R. A. Andrews
*H. Cameron
J. E. Darlow
F. I. Evans
*J. F. A. Forster
*J. Greenhalgh
*W. H. Hamilton
*J. A. C. Hunter
*D. S. Piper
*C. W. Warne
*P. A. Wilkinson
*B. L. E. Wong
*O. H. M. Woodbridge
K. H. Wright

Surgery.

A. R. O. Denton
T. S. Eddy
A. G. Edwards
H. A. Hamilton
P. G. C. Jones
E. J. Pryn
*C. W. Warne
S. M. Whitteridge

Midwifery.

G. T. Balean
W. B. Clegg
D. A. Davies
R. S. Ellis-Brown
H. A. Hamilton
M. J. Harris
C. F. Heys
M. R. Kark
H. Kaplan
F. B. Lake
R. McDonald
W. S. Noble
A. L. Pears
T. S. Protheroe
C. W. T. Shuttleworth
F. H. Weston
S. M. Whitteridge

* Have now qualified.

Papers by Guy's Men

Martin A. Rushton. A case of anidrotic ectodermal dysplasia showing extensive dental defect. *Proc. Roy. Soc. Med.*, 1934, xxvii, p. 725; Sect. Odontol., p. 15.

Philip Turner. (?) Diffuse osteitis fibrosa with spontaneous fracture of the left femur. *Ibid.*, p. 632; Clin. Sect., p. 56.

G. B. Dowling. Poikilodermia atrophicans vasculare. *Ibid.*, 718; Sect. Dermatol., p. 36.

H. W. Barber. Acne scrofulosorum and erythema induratum associated with arthritis (Poncet type). *Ibid.*, 719; Sect. Dermatol., p. 37.

Louis Forman. Telangiectasia of the face, neck and arms associated with pregnancy. *Ibid.*, 723; Sect. Dermatol., p. 41.

W. A. Mill. Atrophic rhinitis treated by cartilage grafts. *Ibid.*, 752; Sect. Laryngol., p. 42.

D. Denny-Brown. Cerebral cysticercosis with epilepsy. *Ibid.*, p. 667; Sect. Neurol., p. 19.

—— Nystagmus (rhythmical myoclonus) of the palate and tongue. *Ibid.*, p. 669; Sect. Neurol., p. 21.

R. C. Brock. Observations on pleural absorption. *Brit. Jour. Surg.*, 1934, xxi, 650.

J. A. Ryle. Failures of gastric surgery. *Lancet*, 1934, i, 890.

Ronald Jarman. Recent advances in anæsthetics. *Brit. Med. Jour.*, 1934, i, 796.

W. G. Sears. Addison's disease treated with common salt. *Lancet*, 1934, i, 950.

E. Matthews. Some experiments on oxyphosphate cement. *Dental Record*, 1934, liv, 239.

R. O. Moon. Some minor cardiac affections. *Practitioner*, 1934, cxxxii, 587.

A. T. Fripp. Chronic backache. *General Practice*, 1934, x, 3.

E. Matthews. Some observations on silicate cements. *Brit. Dent. Jour.*, 1934, lvi, 431.

J. W. Shackle. Blood transfusion. *Jour. Clin. Res.*, 1934, xx, 41.

Norman Burgess. The diagnosis and treatment of the commoner forms of alopecia. *King's Coll. Hosp. Gaz.* (Clinical Supplement), 1934, xiii, p. xvi.

Appointment

C. H. Reinhold promoted to the rank of Colonel, I.M.S., as from 1st November, 1933.

C. H. Reinhold, appointed Inspector-General of Civil Hospitals, Punjab.

Births

HOSSELL.—On May 6th, 1934, at Uckfield, to Norah, wife of Frank L. Hossell, L.D.S. (Eng.)—a daughter.

ALLEN.—On May 3rd, 1934, at Belmont, Eaglesfield Road, Shooters Hill, S.E., to Nancy, wife of Dr. N. Howard Allen—a daughter.

EDS. { G. L. B. T.
D. P. K.

GUY'S HOSPITAL GAZETTE

A Journal of Medicine, Surgery, Dentistry and Hospital News.

PUBLISHED FORTNIGHTLY.

Volume XLVIII *26th May 1934* *Number 1196*

PASSIM

FOR a long time the R.A.M.C. has found it difficult to attract suitable candidates for commissions. The reason for this is probably to be found in the type of work which the young officer is required to do rather than to any dissatisfaction with the rates of pay. In the new regulations which come into force next month as a result of the adoption by the War Office of some of the recommendations of the Warren Fisher Report, the lot of the young R.A.M.C. officer is improved considerably. After a year's service he will receive the rank of Captain, at the rate of pay of £438 a year. At the end of five years' service he can retire with a gratuity of £1,000, or, if he is suitable, he may be asked to remain in the Service till the age of 57. The number of officers accepted on a permanent basis will depend on the number of vacancies in the higher ranks, so that there will be no danger of overcrowding. The increase in the rates of pay and rate of promotion have been secured by a reduction in the total number of officers, so that in future the facilities for work will be improved. The Royal Navy is also making its medical branch more attractive to the newly qualified man.

WE understand that a number of students of the Hospital have been working of late as dock labourers during the strike at some of the nearby wharves. We feel that the cause of the strike is such a purely personal one that it is unwise for members of the Hospital to appear to take sides in the interests of either employers or employees. The goodwill existing between the surrounding inhabitants and the Hospital is such a valuable asset to our life here that we must discourage anything which may endanger it.

IT has long been the custom for Guy's students to extract contributions from the public on Derby Day. The collection was formerly conducted in fancy dress, and the general atmosphere of carnival led to incidents which, if excusable, brought the Hospital into some disrepute. In 1930 the arrangements were more carefully supervised, and the disguises and behaviour were replaced by decent white coats. The result of this metamorphosis was a record collection of £900. This year our Appeal Secretary has obtained from the police permission to make all London our hunting ground, and students in the Massage Department are to monopolise London Bridge Station. The collection starts early on Wednesday, 6th of June, and we urge all students to give in their names at the Appeal Office in the Front Quadrangle as being willing to take part. The new combination of feminine wile and masculine persuasion will surely result in a record-breaking total.

A NOTICE has recently appeared outside the College advertising a tour of the Russian hospitals. The tour has been arranged to take place this summer and will last three weeks. No matter what their political creed, most people are at least mildly inquisitive about Russia, and we feel that there will be many who will want to take advantage of this opportunity of seeing how the great State Hospitals compare with the L.C.C. hospitals, which recently have widened their scope so considerably. Unfortunately, owing to the lack of facilities and the difficulties of the language, it will probably be difficult for anybody to obtain a real insight into the workings of the State Medical Service as a whole. Details of the tour can be obtained from A. G. C. Mason, Esq., Middlesex Hospital.

Obituary

MAY SMITH

Guy's Hospital, March, 1897, to October, 1933

ON April 22nd, 1934, at her home, 74, Compton Road, Brighton, there passed from the pleasures and pains of this life May Smith, one of the Hospital's most devoted servants. She was well known to all Guy's nurses as clerk and secretary to the Matron of their day.

As a girl she entered the Matron's Office a few years after the appointment of Miss Nott-Bower to the post of Matron, and so she served successively Miss Esther Young, Dame Sarah Swift, Miss L. V. Haughton, Miss Margaret Hogg, and our present Matron, Miss MacManus.

It needs but little imagination to realise how the work in the Matron's Office has grown since 1897, and the strain entailed on mind and body. There are innumerable new departments bringing increase in the nursing and domestic staffs, and there is the ever-mounting roll of past nurses, and every year the Matron's professional engagements are added to and the Assistant Matron and Office Sister change in due course. However, when the office door opened for the two or three hundredth time in the day there was Miss Smith at her desk to give advice to all and sundry and greet an ex-Guy. A wonderfully valuable asset in her position was an unfailing memory for people, as it means so much, perhaps after years of absence, to be welcomed by name.

Miss Smith will best be remembered as the first secretary to the Guy's Hospital Past and Present Nurses' League, founded by Miss Nott-Bower, Dame Sarah Swift, Mrs. Lauriston Shaw and Sir Cooper Perry. The establishment of the Annual Dinner and Meeting each Spring and the publication of the *Nursing Guide and Register* gave Miss Smith a never-ending labour of love.

We must not forget that, apart from her official position as secretary, Miss Smith was specially interested in the photographic section of the League's activities, and at one time showed some beautiful work herself.

For some time her health had been failing, but, as long as medically permitted, she wished to continue her work, so her hours and duties were curtailed and she resided in the Hospital during the week, only going to her home in Brighton at the week-end. At last she was told that she must not face another winter in town, so she resigned in October, 1933.

With her "parting present" from the League members and her other savings she had hoped to buy a little house at Worthing. Fortunately, Miss Smith's last illness was short, and we are glad to think that a Guy's nurse, Miss Beatrice Medley, was with her to the end.

Several Guy's nurses living near attended the funeral in Preston Park Cemetery. As Matron's representative and from all League members one of the nurses from the old Guy's Hospital Trained Nurses' Institution took down a most beautiful cross of wallflowers.

On Friday, April 27th, a Memorial Service was held in the Guy's Hospital Chapel, which was filled by a large gathering of past and present Guy's nurses and the Administrative Staff.

George Elliot once expressed the sentiment that life is made easier for you and me by the few who live faithfully quiet, almost hidden, lives. Miss Smith had a retiring personality and disposition, but her daily duties were marked with integrity of purpose, and to the incalculable benefit of all she was intensely loyal to each Matron she served, and through them to the Hospital.

Guy's has lost a good friend, but has received the inspiration of a noble example.

F. A. S.

Diarrhœa

A Clinical Lecture delivered at Guy's Hospital by Dr. A. H. Douthwaite, on 27th April, 1934.

GENTLEMEN,—There are few more fascinating pastimes than the study of a single symptom in its relation to the multifarious morbid processes which may produce it.

In discussing the significance of diarrhœa I shall not attempt to enumerate all the possible causes of this complaint, but rather confine myself to reviewing certain diseases which I have indexed

as presenting diarrhœa as the main symptom of which patients have complained.

Acute Diarrhœa.—Under this heading the largest number has been referable to food poisoning, and when it has been possible to determine the nature of the infecting organism, the Aertrycke bacillus has been the chief offender. The diagnosis of this type of case is by no means easy, but if a patient, previously in perfect health, is seized with violent diarrhœa, colic, headache, furred tongue and prostration, one's suspicions would naturally be very strong. A helpful confirmatory point is the occurrence of diarrhœa, or even mere abdominal discomfort, in one or more members of the family, provided, of course, that they have also eaten the same food. The faulty food is usually fish, especially oysters, or pork, and the symptoms appear in the early hours of the morning following the infected meal. The worst example of this kind which I met was in a woman who also suffered from intractable vomiting and pyrexia of 99 to 101°. The pulse is usually raised in proportion to the temperature, whilst the leucocyte count is about eight to ten thousand. These facts make typhoid or paratyphoid improbable, but do not exclude them. The sudden onset is very rare in typhoid, however. In some cases diarrhœa is so excessive that the patient is in a state of collapse. The stools are watery, but contain flakes of mucus and may be tinged with blood. The abdomen is flaccid and diffusely, slightly tender. The temperature may be subnormal and the patient semi-comatose. Such cases are usually admitted to Clinical, and thus, unfortunately, are excluded from your experience.

Very often the causative organism cannot be traced, but the value of repeated agglutination tests should be borne in mind. Typhoid, in my necessarily limited experience, seldom gives rise to acute diarrhœa. Constipation is commoner. The disease is on the increase, after having almost vanished from England, on account of the cruising habits of the population. Marseilles and the Near East provide numerous cases. The only one which I have seen in which diarrhœa was an acute feature was an unfortunate lady whose doctor had, very wisely, inoculated her with T.A.B. before the trip, yet within a month of the second injection she developed the disease.

The only other form of food-poisoning which I will mention, and which is strictly speaking a chemical one, is that produced by the excessive use of washing soda in the preparation of green vegetables. Apparently this substance accelerates the softening of such food as spinach and preserves its colour, and, if applied with the free hand which characterises the lazy cook, may cause much discomfort in the household.

The treatment of acute food poisoning (excluding the typhoid group) is dictated by the general state of the patient. Thus, where diarrhœa is moderate and colic considerable, an ounce of castor oil will often effect a cure. When it has acted there is no objection to the exhibition of a single 10-minim dose of tincture of opium to allay the intestinal writhings.

If diarrhœa has been excessive, only harm will be done by further purgation. Treatment should consist of the administration of fluids and glucose only, absolute rest, warmth to the abdomen, and again opium. If vomiting accompanies diarrhœa and shock is apparent, fluid should be given intravenously and the body temperature maintained by means of an electric cradle.

Other types of acute diarrhœa which, though uncommon, should be remembered are :—

1. Nervous.

2. Endocrine. Thus it may be a feature of Graves' disease even as an early manifestation, or again of Addison's disease.

3. Intentional poisoning, *e.g.*, arsenical. If you strongly suspect criminal poisoning, call together the entire household, including staff, and say so ; then walk out. Your patient will be rather better next day.

Diarrhœa due to Inflammation outside the Alimentary Canal.—If I may somewhat inaccurately include the appendix under this heading, I should like to remind you that, particularly in children, acute appendicitis may give rise to diarrhœa as an outstanding symptom. I suspect that in many cases, however, the diarrhœa starts as an infective entero-colitis, and that the appendicitis is the sequel of this. This view is supported by notes of a school epidemic of diarrhœa with which I once dealt. Of the eight boys affected six recovered in three days, the other two improved so far as the diarrhœa was concerned, but then developed acute appendicitis.

Inflammation of the gall bladder on account of the close relationship to the colon which it may possess occasionally causes diarrhœa, and may do so in each recrudescence of cholecystitis.

Diarrhœa due to Faulty Absorption.—Under this heading we think of such conditions as sprue, cœliac disease and chronic steatorrhœa, where diarrhœa is due to a great excess of unabsorbed and often unsplit fat, but, as I have not personal experience of any of these, I will pass on to that relatively common cause of chronic diarrhœa,

tabes mesenterica. The characteristic symptoms of tuberculous mesenteric glands are shooting pains in the abdomen, often in the right iliac fossa, loss of weight, and intermittent attacks in which pale yellow stools are passed and in which occasionally diarrhœa is actually present. This picture includes a low pyrexia, tenderness, but seldom guarding in the right iliac fossa, and a normal or slightly raised white count in which the lymphocytes are relatively high. A great number of these patients are operated upon needlessly with the diagnosis of chronic appendicitis. In children over ten years of age an X-ray of the abdomen will often reveal shadows of calcareous glands.

Terminal Diarrhœa.—As the name implies, this form of diarrhœa is largely of academic interest. It is, however, a practical point to remember that diarrhœa may arise suddenly in a patient with chronic pulmonary tuberculosis who is apparently jogging along quite well, and only too often means a rapid and fatal termination. The terminal diarrhœa which seems to be peculiarly associated with chronic Bright's disease is due to an acute colitis. The post-mortem specimen of the brilliantly inflamed colon bespattered with dark hæmorrhages presents to the detached observer a remarkable example of the beauty of certain morbid processes.

Large Intestine Diarrhœa.—No doubt this term at once reminds you of the possibility of diarrhœa being caused by carcinoma of the gut. In general, the lower the growth the more frequent the stools, which, though usually formed, are small in bulk and accompanied by mucus and often a little blood. Mucus and blood are also passed independently of defæcation, a feature which is never caused by piles unless associated with a severe proctitis. Colicky abdominal pain and a dull ache in the lower back are also common and helpful symptoms of growth. Neoplasm high up the colon is much more often characterised by increasing constipation, though this may, of course, alternate with diarrhœa. If rectal examination proves to be negative, sigmoidoscopy and barium enema should follow.

In the very old, or the very feeble, or the very lazy, and in the chronic alcoholic fæcal retention may give rise to diarrhœa produced by the escape of an accumulation of liquid fæces past the stony rectal obstruction. Diagnosis and treatment offer no difficulty.

Ulcerative colitis may give rise to acute or chronic diarrhœa. In no other disease is it more important to inspect the stools. They are quite characteristic when the condition is acute, consisting chiefly of fluid, dark blood with small masses of mucus here and there, and very little true fæcal material. Pus is often not visible to the naked eye. I have never seen a stool of this sort produced by a carcinoma, but once I found a high carcinoma associated with apparently a true ulcerative colitis. Other signs are pyrexia, tenderness of the colon, particularly the descending portion, loss of weight, unpleasant odour to sweat and breath, achlorhydria in a high proportion (30 per cent. in my cases), and a red, granular, bleeding mucous membrane as seen through the sigmoidoscope.

No two people seem to agree on the subject of treatment of ulcerative colitis. I can only give you my own method, which is :—

1. Not to wash out the colon. It irritates the gut, it disturbs the patient, and cannot possibly materially affect the organisms buried in the depth of the ulcers.

2. If diarrhœa is frequent and severe, procure rest for the patient and his bowels by giving Tr. Opii, minims 10 t.d.s.

3. Relieve pain by the use of an electric pad on the abdomen.

4. Maintain strength by an adequate supply of soft food, not milk unless diluted and citrated (if the citrate appears to increase the diarrhœa, stop the milk). Any vegetable or fruit which can be cooked and passed through a fine sieve, fish, toast and butter and chicken are permissible if the appetite is maintained.

5. Give hydrochloric acid to the achlorhydric during the attack and thereafter, unless a causative gastritis can be cured.

I have seen only one case cured by anti-dysenteric serum, and that resulted from a violent anaphylactic shock. On the other hand, it is clear from the experience of many others that it does sometimes do good.

Every now and then one meets a case of chronic amœbic dysentery in patients who have lived abroad. The scarring and ulceration can be seen through a sigmoidoscope, and cysts may be found in the stools. Treatment with emetine will always produce great benefit and thus be diagnostic, but a radical cure may require full dosage with yatren and emetine-bismuth-iodide.

Gastrogenous Diarrhœa.—Finally I want to deal with the most interesting form of diarrhœa, namely, that arising from some abnormality of the gastric motility or contents.

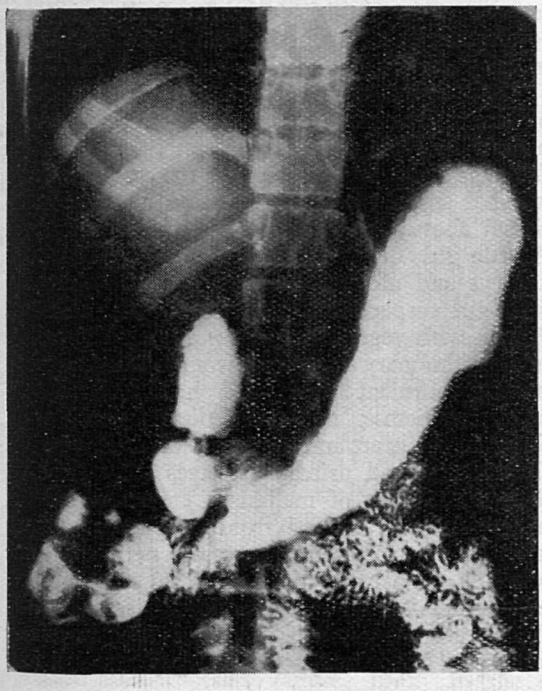
The best known example is given by the achlorhydric, whether congenital or acquired. The history is usually that three to five stools are passed between the hour of rising and 11 a.m. After

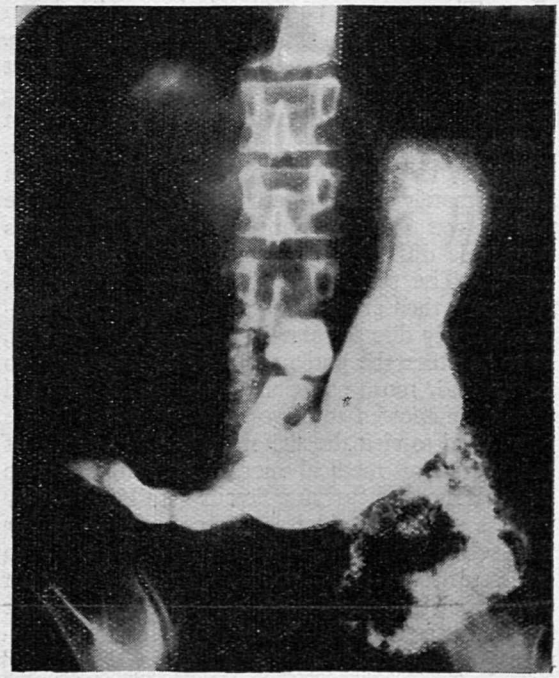
that all is well. The stools may never have been formed, but they are not liquid. They are often light brown, and contain particles of undigested food indicative of increased rate of transport through the gut. There is no pain and no tenderness, but anæmia may be present.

The restoration of acid to the stomach contents either by its administration in dilute form in half to one drachm doses, or by the treatment of gastritis if present, will rapidly abolish the symptoms.

It is less commonly known that some individuals with hyperchlorhydria may suffer from the same symptoms. The explanation is that this state of gastric juice is often associated with a rapidly emptying stomach and it is this factor which is responsible for the diarrhœa. All of you know of the pioneer work of Dr. Hurst in the association of certain types of stomach with certain morbid conditions, particularly the rapidly emptying, hypermotile, hyperchlorhydric stomach found in connection with duodenal ulcer. It is surprising, therefore, that diarrhœa is not a common symptom of duodenal ulcer. I found this, however, for the first time a few months ago. The patient complained of loose motions, four every morning as long as he could remember. There was no other symptom. Feeling convinced that I was dealing with an achlorhydric, I found to my surprise that the test meal revealed a high and rapidly climbing acid curve. An X-ray by Dr. Worth showed quite clearly the presence of a duodenal ulcer, and blood was present in the stools. Treatment on the usual lines for duodenal ulcer restored the stools to a normal consistency. In conclusion, I should like to tell you of what is, I believe, a unique case in which the sole symptom was violent diarrhœa.

A lady of 41 years came to me with this complaint, which she had had for 20 years. She suffered from liquid evacuations, which she had not, however, inspected. Sometimes she passed five stools during the night, sometimes in the day. Occasionally she would be constipated. She attributed the trouble to bad feeding at a finishing school in France, but it appears that as a child she suffered from attacks of abdominal pain suggestive of tabes mesenterica, and that she was at one time so thin that her family used to watch her in her bath as an interesting example of a "famine child." It is scarcely necessary to add that she had had all manner of treatment, including Plombière's douches. The fractional test meal revealed a rapidly rising acid content with emptying in three-quarters of an hour. Sigmoidoscopy revealed a normal mucous membrane smeared with pale greasy fæces. The latter contained a great excess of fat and fatty acid crystals, but were otherwise normal. Blood examination—Hb. 90 per cent.; red cells, 3,750,000; leucocytes, 8,000; colour index, 1.2; differential—polymorphs 38 per cent., lymphocytes 56 per cent., monocytes





4 per cent., eosinophils 2 per cent. No abnormality in size of cells. Various agglutination tests negative.

Up to this point the case appeared to be increasingly complex, but resembled in some respects the so-called non-tropical sprue.

X-rays by Dr. H. M. Worth solved the conundrum in demonstrating a fistula between the second part of the duodenum and the proximal end of the transverse colon.

The filling of the large gut is clearly shown in both pictures, which were taken a few minutes after ingestion of the meal. That the major portion follows the usual course is seen by the filling of the small intestines below and to the left of the greater curvature.

Whether this fistula arose from tuberculous disease in childhood has yet to be determined. I hope that in time a surgical dénouement will follow.

My last words to you are that in all cases of diarrhœa examine the rectum and look at the stools.

From the Case-Books of a Parisian Consultant of the Sixteenth Century

By E. W. Goodall, Esq., M.D.

(*continued*)

There was one case which evidently interested Baillou very intensely, for he relates it twice in, for the most part, the same words, though he gives a different name to the patient in the two narratives. In *Cons.* II, xxii, he is called Count de Reilus (*D. de Reilus Comes*), but in *Lib. Parad., Hist.* i, he appears as the Lord de Montgeron. Possibly these were different titles of the same nobleman. At any rate he was one of Henri III's favourites. He was wounded with a poniard (*pugio*) in the chest between the fourth and fifth ribs. The weapon penetrated the mediastinum nearly to the same spot on the opposite side. There was profuse hæmorrhage and an important branch of the azygos vein was supposed to have been severed. Baillou evidently is of the opinion that a counter-opening should have been made. However, that was not done, and the omission led ultimately to the death of the patient. The patient was ordered complete rest. There was very little difficulty in breathing and hardly any cough. The patient could sleep on either side. A dispute then arose amongst the medical attendants, largely due to their jealousy of one another, as to whether the patient should be permitted to sit up and, more especially, whether the wound should be allowed to close by cicatrisation. The King used to visit the sick man, and the efforts of the avaricious medical men in attendance were directed more to currying favour with His Majesty with a view to obtaining certain benefits for themselves than to the care of their patient, who could not have been more neglected had he been some poor wretch of no consequence or a dealer in second-hand rubbish. "If affairs were mismanaged anywhere, they were so in this case." The wound was allowed to close. The patient appeared to do well at first, but "triumphus ante victoriam canebatur." Sanious matter collected in the chest, and fever, diarrhœa and wasting ensued. Suddenly dyspnœa and stertorous breathing set in, which were followed by death on about the 33rd day after the infliction of the wound. At the autopsy three or four pounds of bloody matter were found in the thorax, the pleura was thickened, and the lung, though it had not been wounded by the weapon, looked as if it had been infected as in phthisis (*tabum*). Baillou is very severe on the negligence of the Court physicians in this case.

There seems to have been no difficulty about obtaining permission to make post-mortem examinations in Paris in Baillou's time, for there are frequent references to them in the writings from which I am quoting. In addition to those mentioned above, the following are worthy of note: A little girl, ill for two months; calculi in both kidneys and ulceration of the rectum. Another little girl suspected of nephritis; renal calculus. A man with vegetations (*carunculæ*) at the orifice of the pulmonary artery. A woman who had been passing purulent urine and had suffered excruciating pains; two concretions (*calculi*) were found in the heart and a number of abscesses, but the kidneys and urinary passages were healthy. Was this a case of malignant endocarditis? A man who had suffered from dyspnœa; a very large heart. In another man the pericardial sac was full of pus. A young man, 20 years of age, had suffered from palpitation for several years. All his arteries could be seen pulsating in nearly every part of the body. An autopsy revealed that

the valves of the heart and the aorta were distended and the heart was at least twice its normal size. Possibly this was a case of aortic regurgitation. A woman had a left hydronephrosis and an atrophied right kidney. Baillou states that he has made post-mortem examinations on many persons who have presented symptoms simulating diabetes and he has found gangrenous ulceration of the bladder.

A certain man was cut for stone and five calculi were extracted. Apparently he died after the operation. During his whole life, wonderful to relate, his stools had always been liquid, and the bowels had never acted without purges. The cause of this had never been explained. At the autopsy a thick and hard ring was found in the large intestine, nearly filling up the centre of the gut, so that solid stools could not pass through. Probably this was a case of carcinoma of the colon.

A man who died comatose after apparently a slight fever and with severe headache ; the cerebral ventricles contained a quantity of clear fluid. A woman who had suffered from severe colic, continued fever, pain in the right side of the body and jaundice ; hepatic disease diagnosed ; gall-bladder full of stones, liver whitish, firm adhesions between diaphragm and liver and right lung. Case of a pregnant woman with dropsy ; 12 lb. of fluid of the colour of urine in the abdomen, liver hard, of various colours and diseased, only one kidney, the left, which was twice its natural size, the right was replaced by a sort of sac ; the patient had often passed stones after renal colic, but no stone was found in the kidneys or bladder ; there had been no abortion in spite of the administration of violent purges. In the case of an old man who was extraordinarily prone to fits of temper (*in iram mire propensus*), Baillou says that the gall-bladder was replaced by a single stone. He seems to have met with a number of cases of renal and biliary calculi verified post-mortem. He also states that in persons who have a blotchy appearance of face an abscess is found between the stomach, the diaphragm and the lung.

Baillou relates two instances of autopsies in cases of suspected poisoning. In the first case a man had suffered from a disease which his doctor could not diagnose. The stomach was found to be covered with an exanthem, and this was taken to be evidence, though not good evidence, of poisoning. But a sharp or inquisitive (*oculatus*) surgeon who was present asked whether there had been an eruption on the skin before death. It was ascertained that such had been the case, whereupon the verdict in favour of poisoning was withdrawn and the cause of death attributed to suppressed measles (*Lib. Parad.*, 107). In the other case it was alleged that the patient had been poisoned by his medical attendant. Six days after death the stomach was examined and some macules were found scattered over it. This was thought to be sufficient proof of poisoning. But here again, one of the medical men, who was sharper than the others (*oculatior*), insisted that the stomach should be separated from the neighbouring structures and spread out before the eyes of all. It was then seen that, by some miracle, it had been perforated with minute holes, and these lesions were held to be the cause of death (*Lib. Parad.*, 144). In both cases the autopsy had, apparently, been made in the course of a judicial inquiry, and it is quite clear that in those days forensic medicine was woefully to seek. Allegations of poisoning were not infrequently made in those suspicious times, and it is highly probable that persons were occasionally poisoned of malice. It is stated in the *Mémoires de Vieilleville* that the courtiers of Henri II used to bribe the medical attendants of wealthy persons to poison their patients, so that they (the courtiers) might obtain the deceaseds' estates from the king. Baillou was present at two important post-mortem examinations, namely, those of Jeanne d'Albret, Queen of Navarre, and Charles IX, of France. There was the usual suspicion of poisoning in each case, though Baillou does not mention it. Death was attributed to peripneumonia, and the lungs are described as being "putrid, sanious and very fœtid." Baillou states in a note that a well-known physician suggested that in the case of Charles the condition of the lung was due to post-mortem changes. He admits that such changes may occur, but does not agree that they were present in Charles's case. (*Lib.* II, *Epid.*)

(*To be continued*)

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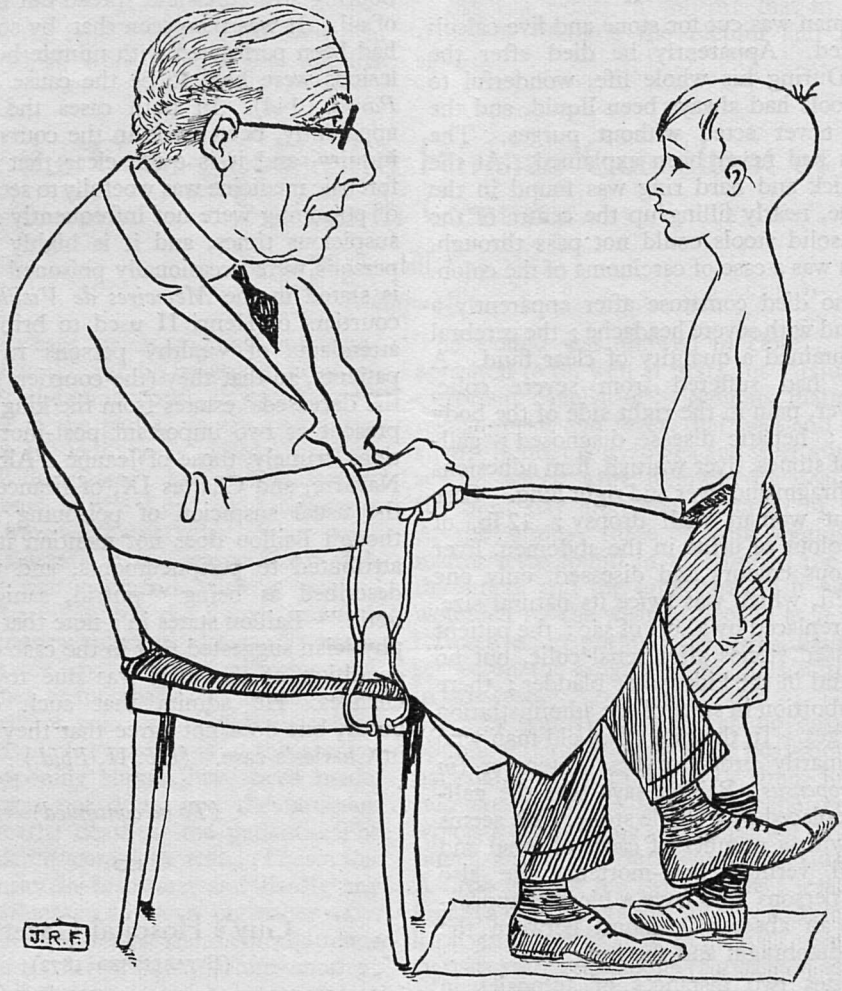

H. C. C. and K. K. K.

De Extractionibus

Or The Omnibus Collection of Aids to Removal of Teeth under General Anæsthesia of Short Duration

By H. H. Kenshole, M.R.C.S., L.R.C.P., L.D.S.

IT has been the privilege and great good fortune of the writer to be present on many occasions in the past four and a half years during the morning sessions in the General Anæsthetic Extraction Rooms, better known to old Guy's men as the " Gas Rooms," and to note the differing methods and particularly the helpful points of advice advocated by the various surgeons, and as at times it has been his duty to deputise on each morning it has been incumbent upon him to foster and teach the technique of the surgeon for each particular day.

It is thus, perhaps, permissible to correlate what appear to be the most useful points culled from these opportunities, and to add certain other matters.

For purposes of continuity I propose to consider the sequence of one operation from beginning to end; to turn aside where necessary for purposes of elaboration, to give credit where credit is due, and even, as gently as possible, to indicate those circumstances where the teaching of one would appear to be slightly more helpful than that of another.

Firstly, then, it is assumed that the merits and demerits of performing the operation under general anæsthesia of short duration, usually by means of nitrous oxide admixed with air or oxygen, have been considered, and that it has been decided to proceed with this aid.

It is the first duty of the dental surgeon to obtain the patient's consent to this mode of procedure, and let it be stressed that, if the patient is under 21 years of age, it is extremely advisable, if not necessary from a legal point of view, to obtain consent of a parent or guardian, both to the extraction of tooth or teeth or other operative procedure, and to the administration of a general anæsthetic.

Further, whatever the age of the patient, it is most desirable that a second responsible person should accompany a patient who undergoes a general anæsthetic.

It is quite impossible to be certain that the patient will not suffer from some degree of psychological, and possibly surgical, shock following the operation, and the possibility is ever present of an accident by reason of this state. The patient may feel unwell, and while walking home or entering a vehicle may slip off the kerb, injuring an ankle, or, worse still, in the present-day rush of traffic may unfortunately be involved in an accident with a fast-moving vehicle. Such misfortune could be attributed directly to the post-anæsthetic state, and can so easily be avoided by the help of a companion.

Such an instance was recorded not long ago; a man had a number of teeth removed and was cycling home when he was involved in an accident with a bus, with fatal consequences. It was quite wrong for that patient to proceed alone, and foolish in the extreme to be cycling, yet it is the duty of the dental surgeon to advise and warn the patient beforehand, for few patients can be expected to think of all these points, and many think of none.

How frequently patients reply that often before they have had an anæsthetic while unaccompanied, and even boast of cycling so many miles afterwards; it may be done without regrets, but, nevertheless, it is most unwise, and under certain circumstances extremely dangerous. The patient having been warned, it rests with them in private practice whether or not they heed the advice, and, if unheeded, with the dental surgeon whether or not he will permit the administration of an anæsthetic.

It is assumed that any necessary scaling and removal of tartar is done beforehand, and next consideration should be given to the advisability, or otherwise, of purging. So frequently it is recommended that a light purge should be given the night before operation. To digress for a moment, it should be noted that the word " operation " is used, and purposely so. Patients should be made to realise that the removal of teeth is an operation, and should be treated as such. Equal care and attention are required as for the removal of a finger or toe-nail under nitrous oxide anæsthesia, yet few will deny that more attention is paid under such circumstances than is usually accorded to dental extractions.

What is meant by a light purge? Unless definite instructions are given it is better that no purge at all be taken. Probably the purge most commonly used is magnesium sulphate, or proprietary preparations largely consisting of this drug, and surely it is quite wrong to use this substance on the night before operation. Firstly, it should be taken when the upper portion of the

alimentary tract is as empty as possible, *i.e.*, first thing in the morning; secondly, it works by reason of its saline character, exerting an increased osmotic pressure in the interior of the gut lumen, thus extracting tissue fluids from the body, so that the increased content of the bowel is sufficient to promote peristalsis and evacuation. After the administration of such a saline it is desirable to take large quantities of fluids to limit as far as possible the dehydration of the body. Thus again it would appear wrong to give a saline at night when subsequent intake of fluids will be awkward.

Whenever operative procedure is being performed it is essential that the body shall not be dehydrated. Mr. Layton in a previous article in the *Gazette* has wisely stressed the great importance of a sufficiency of tissue fluids in the body, and of the necessity of increasing to the maximum possible the fluid intake after an anæsthetic. Decidedly, then, it is undesirable that a saline purge be given on the morning of operation; another reason being that the desired result may not have taken place before the anæsthetic is given, when the resultant sphincteric relaxation might be unfortunate.

If it is considered necessary to purge, any of the following medicaments may be given to a normal fit person :—

Cascara sagrada, 1 to 2 pills.
Liquid extract of cascara, B.P., ½ to 2 dr.
Mistura sennæ co., B.P., 1 to 2 oz.

or certain household vegetable laxatives in pill form. In all cases dosage depends upon habits, and if evacuants are habitually taken it is obviously necessary to suit the drug and dose to the case under consideration.

It is probably, however, far wiser to use the purge after, rather than before, the operation.

Pre-anæsthetic medication is a big and controversial subject, the more so at the present time as barbiturates are the centre of almost heated discussion. It is not possible to delve deeply into this question here; suffice it to state that the most commonly used are medinal (sodium barbitone), luminal (phenobarbitone), nembutal and allonal. Premedication should only be used with the knowledge and acquiescence of the anæsthetist. In all cases he should be warned before the beginning of the induction of the taking of any such drug, the quantity, and the time it was taken.

Sir William Wilcox, quoting two Continental writers, gives the toxicity of nembutal as being 10.1 times as great as veronal (barbitone).

Allonal is probably the most widely used, and to normal patients it seems quite safe to give one tablet on the night before operation and two tablets 30 minutes before the anæsthetic. It should be noted that taken on an empty stomach and in solution the effect is more rapid and intense. The taking of alcohol with the drug seems to increase the toxic effect.

Always it should be impressed upon patients that the taking of alcohol before an anæsthetic is wrong.

The time of operation is of considerable importance, for closely coupled with this is the question of abstention from food. Again Mr. Layton has shone his powerful light upon the faults and dangers of starvation, and consequent acidosis and ketosis. If this ketotic state is so dangerous when chloroform is used, so surely it is undesirable when any other less potent drug is administered.

It is desired, then, that the patient shall in no way be starved, or, to put the matter in more precise detail, that the blood shall contain a sufficiency of glucose without having to call upon the glycogenic store of the liver, yet that the stomach shall be empty, so that there is no possibility of vomiting and consequent danger of inhalation of septic material when the protective laryngeal reflex is in abeyance.

To abstain altogether from breakfast, unless such is the usual practice of the patient, would therefore appear to be wrong. Let the patient have some hot milk with added sugar if palatable, and two or three slices of thin bread and butter; unless the patient is of a highly nervous disposition the stomach will again be completely empty in two hours' time. Between 10 a.m. and lunch-time would then appear to be suitable for the operation, and probably the most desirable period of the day, for it is then possible for the patient to rest for the necessary time and return to normal as to diet and routine of life in the later afternoon or evening, to be followed by a normal night's rest. If it is necessary to operate in the afternoon, then it is wise for the patient to have a light breakfast, omitting all things of an indigestible nature, and to have a very light meal about 11.30 a.m., again preferably sweetened milk and thin bread and butter. The necessary extractions can then be done shortly after 3 p.m., and the patient can reach home before the colder parts of the day subject him to a chill—a possibility always present as patients frequently perspire under nitrous oxide anæsthesia, particularly if prolonged, and are thus rendered vulnerable to cold, damp atmospheres. Even in the warmer days of summer it is doubtful whether it is wise to operate late in the afternoon, for it is necessary that the patient shall rest for some hours afterwards, and if this is done too

near night-time the desire for sleep passes, and a restless or disturbed night follows. In the extreme heat of summer the hottest hours of the day should be avoided, and therefore the hours before noon would, on all counts, appear to be best.

Mr. Lewin Payne, when performing major dental operations, tries to arrange for the work to start a quarter of an hour or so before the time actually fixed, his view being that the period immediately beforehand is increasingly more nerve-racking to the patient, and that if the last short wait is eliminated so much the better. This thoughtful move might well be utilised under circumstances such as we are considering. The patient should be advised to be at the house of the dental surgeon at least 15 minutes before the time fixed. This precaution serves more than one purpose: it allows a margin of time and may prevent a late start due to the patient being behindhand. If the patient has hurried, it allows him to recover if short of breath or otherwise distressed, and, be it said, this is most desirable in those cases where cardiac lesions of slight degree, known or unrecognised, are present; and finally, if the patient is in no way physically distressed, it is possible to arrange with the anæsthetist to be ready a little early and to begin before the stipulated hour, as suggested above.

When all is ready in the surgery the patient should be called from the waiting-room and shown to the lavatory accommodation; where a female or child is concerned this is better done by a lady receptionist or surgery attendant, and in the case of a man by the surgeon or man-servant, so that no embarrassment is caused in persons of susceptible nature. It should be clearly indicated that it is advisable to empty the bladder, even if this has been done only comparatively recently, for any easily avoidable accident is most distressing to all. It should also be mentioned to lady patients that corsets or other tight body supports should be loosened.

Where possible, it is desirable that the patient shall enter the surgery to notice nothing different from that to which he or she is accustomed; at any rate the anæsthetic apparatus should not obtrude itself upon them, rather like the sword of Damocles, but worsened by the knowledge that the blow is going to fall, and shortly, too. I feel sure that Anne Boleyn upon her last appearance would have felt less uncomfortable had she been allowed to mount the scaffold to be the only centre of attraction, and if the block had been surreptitiously put into place a moment or so only before her last bow. The block, of course, and so, too, the anæsthetic apparatus, should have run on well-oiled wheels.

It is most important that the patient should be relieved of any dentures, which are placed in a bowl of water. Wrist watches should be removed to avoid the possibility of breakage. If the lips are submerged under a heavy coating of cosmetics, and the anæsthetist would appreciate their natural colour, it is quite useful to rub a little vaseline on the inside and outside of the corners of the mouth, explaining to the patient that this is intended to prevent any cracking of the corners, which sometimes occurs when the mouth has to be drawn sideways under an anæsthetic. A final wipe of the vaseline over upper and lower lip will remove most, if not all, of the colouring matter.

If the anæsthetist wishes to listen to the heart sounds he should be at liberty at this point to do so, but many physicians do not avail themselves. Some patients will insist upon a stethoscope being used, and a declaration that it is quite safe to proceed. On one occasion I was able to pacify a fretful and nervous patient who wished for such an examination by placing the mouthpiece end of the oral attachment of a Trewby nasal apparatus upon the lady's chest and the other end of the rubber connection into one ear, with resultant complete satisfaction.

The anæsthetist should be asked to look inside the mouth, so that he may decide where his gag may be placed, if necessary; this precaution may permit him to avoid pressure upon a somewhat faulty tooth or teeth, and in any case it is wise that he should be acquainted beforehand with the nature of the work to be performed. A helpful anæsthetist is a great boon and blessing to a dental surgeon.

Dr. Marston and Mr. Kelsey Fry stress that in certain cases the anæsthetist is quite unknown to the patient, and that it is then the responsibility of the surgeon to reassure and make the patient comfortable by explaining what is going to happen and what he or she is required to do. Mr. Fry's dictum is that the dental surgeon should be allowed for the first ten respirations of an anæsthetic to encourage and reassure, and in practice this has frequently great advantages.

It is assumed that the necessary instruments which will or may be required are ready and sterile. Some operators prefer to keep them in an antiseptic solution, others dry and on a sterile pad or dish. In either case a covering should be over them, so that the patient has no chance to shudder at the sight. I personally prefer to have the boilable instruments sterilised in this way, cooled in running tap water and placed ready to

hand, covered by a sterile cloth. Sharp instruments are removed from surgical spirit, and similarly covered. If instruments are placed in weak carbolic solution after boiling there is a tendency for such, other than those made of stainless steel, to rust, particularly at the joints. If the solution is of greater strength than 2 per cent. there is a liability of injury to the mucous membrane or skin of the lips and cheeks, and if of less strength its use probably provides no greater safety than the sterile covering over dry instruments. Furthermore, the wet handles are somewhat liable to slip in the operator's hands. This last drawback is still more pronounced if lysol solution is used, for the handles are then positively slippery. To avoid this state of affairs it is usual to rinse the handles in running water immediately before use. Unless this is done during the induction of anæsthesia the use of lysol would appear to be of no advantage, and it is undesirable that even the noise of a running tap should be heard during the early stages of anæsthesia.

Acuity of hearing is greatly increased during the stage of excitation, and therefore complete silence should be maintained.

Mr. Doubleday recommends the use of a solution akin to lysol, but without its slippery character. This, unfortunately, does away with an undoubted advantage of the latter, namely, the lubrication of the forcep joints by its soap content.

If the chair is provided with a lowering foot-rest this should be dropped, so that the feet cannot catch upon any obstacle, so providing a purchase should the patient struggle or for any reason become opisthotonic. Some people have suggested that the feet should be placed one on either side of the footboard, resting on the floor; this practice would seem undesirable, even in the case of males, unless considerable unrest and struggling is anticipated, and the chair has a fixed footrest, which provides a hold for the patient's feet. In such cases the use of a strap placed loosely around the patient's middle and behind the back of the chair after the beginning of induction, and drawn tight, if necessary, is helpful, but care must be taken that the strap is sufficiently loose so as not to obstruct full expansion of the chest and lungs.

The patient should be instructed to sit upright and well back in the chair, so that the buttocks are as near as possible to the back-rest, which, if adjustable, should not be tilted forward until the patient is sitting as far back as possible. This precaution is very necessary, for if the induction is begun with the patient at an angle of 45° to the floor, when the necessary muscular relaxation is obtained there is a distinct tendency for the body to slip further forward by the action of gravity. If the upright posture is first obtained, then, however much relaxation is produced, the weight of the head and trunk is transmitted in a vertical direction through the buttocks squarely into the seat. If it is desired to have slight backward tilting of the patient, the chair and patient as a whole should be thus inclined, and still more relaxation will tend to keep the patient in, rather than to displace from, the position described. Further, the back-rest should be raised to support the patient's back as high as possible. If this support is left in the lowest position, then the head-rest adjustment has to be raised and to work at a mechanical disadvantage. With back-rest as high as convenient, the head-rest should be adjusted so that the head and neck are in line with the body, with the head support fitting snugly in the nape of the neck, with no daylight to be seen between the two. If the head is pushed too far forward the glottic opening is partially obstructed, and the mandible, to which is attached the tongue, tends to be forced back. Too great backward tilting of the head is uncomfortable to the patient, and is dangerous by reason of the risk of foreign particles, such as broken pieces of tartar or tooth, falling back through an unguarded oro-pharyngeal opening.

On no account should the head-rest support the head in the region of the occiput, for slight downward movement allows the occiput to slip over the support, and produces complete loss of control of the head by anæsthetist and operator.

To repeat for purposes of emphasis the most desirable and correct position for the patient is sitting bolt upright in the chair with head and neck in line with the trunk, with back supported as high as possible, and with head-rest fitted into the nape of the neck. The chair and patient may then be tilted slightly backward if desired.

A suitable apron or towels having been placed over the patient's clothing, it is almost time for the anæsthetist to start.

Many who have passed through the General Anæsthetic Rooms as students of recent years will remember that, "While Friday night is Amami night, Friday morning is Iodine morning," and I think that to Mr. Doubleday alone is due the credit for this important precaution. Tinct. Iodi Mitis on a swab of cotton wool should be rubbed around the areas from which extractions are to be made at the last possible moment when the prop has been placed in position, so that movements of cheeks, lips and tongue producing re-infection are minimal. It might be suggested that this could well be done when the patient is anæsthetised

at the start of the operation; this, however, prolongs the anæsthetic time, which should be reduced to an absolute minimum consistent with care, and this point cannot be too strongly emphasised. It may be thought that consideration of such minutiæ is quibbling, but it is even advocated by Mr. Doubleday that upper straight root forceps should be used for the removal of teeth as far back as and including those in the maxillary molar regions, so as to avoid waste of time in changing forceps.

The placing of a prop requires careful consideration and depends upon the contemplated sequence of extractions. Except in unusual circumstances the prop should be placed in the opposite side of the mouth to that from which the first extraction is to be performed, and it may be firmly laid down that no matter in what region of the mouth it may be any extremely loose tooth should be removed first, for until that has gone the danger of its dislocation is ever present, with the possibility of migration backwards through the oro-pharynx. The most skilled anæsthetist cannot tell that he will not require to use an instrument for the mechanical opening of the mouth, *e.g.*, a Mason's gag, at a moment's notice in the event of a sudden emergency, and it is at such times that such a tooth is liable to be displaced from its socket, with unfortunate sequelæ. Therefore always remove an extremely loose tooth first whatever its situation.

As to the positioning of a prop, it would appear to be best to use a prop of medium size in the premolar and first molar region. To use too large a prop far back in the mouth leads to extremely wide opening, which is most uncomfortable to the patient, besides creating difficulty in respiration. Extreme width of opening may also be detrimental for other reasons, as when removing a maxillary third molar tooth tilted outwards into the cheek, for the muscles of the cheek are then too much stretched to allow of correct and easy application of the blades of the forceps. It is sufficient if the jaws are separated enough to allow of the application of the points of the forcep blades to the gingival margins of each tooth to be removed with the blades in line with the long axis of the tooth, without the remainder of the forceps being obstructed by teeth in the opposing jaw.

At some centres of dental teaching, notably Edinburgh, students are instructed to place a large prop in the middle of the mouth between the incisor teeth if present, and all extractions are done with this *in situ* until the turn of the incisors, which are removed last. Using this method, the forefinger and thumb of the left hand are inserted into the mouth on either side of the prop to support the alveolus of the tooth, so that the prop always fits in the first interdigital space. This method again is used for speed, but does not commend itself much to teachers at Guy's.

Where the incisor teeth are not to be removed there is a danger that these will be subjected to strains not in the line of their long axes if much contraction of the muscles used in closure of the mouth occurs during any stage of anæsthesia, and if the teeth and their supporting structures are not perfect damage may result.

The use of a small prop far back in the molar region is useful, though sometimes causing slight nausea to the patient, and also rendering more difficult the insertion of a Mason's or other gag on the same side of the mouth. (*Vide infra.*)

Lastly, the patient should be instructed to clasp his or her hands tightly by interlocking the fingers upon the lap. By so doing an avenue of distraction is provided, and, should any muscular over-action occur, in all probability it will lead only to tighter clasping of each hand by the other, and flinging of arms and hands in all directions will be avoided. Mr. Fry has taught this since his return from the U.S.A.

The administration of the anæsthetic may now proceed. It is desirable that there should be no bright source of illumination in the patient's near field of vision, for all causes of stimulation should be eliminated as far as possible. If working other than in daylight a general diffuse lighting of the room is desirable, so that the anæsthetist may more correctly judge of the patient's colour.

It is of the utmost importance that the operator and others shall stand well away from the patient during the stage of induction to avoid inducing any feeling of claustrophobia, of being shut in without sufficient air to breathe. This apprehension was far more marked when the full face-mask, covering mouth and nose, was used, but still is present in minor degree to-day. How often has one seen a dresser towering over the patient while the anæsthetic is being induced, dangling in his hand the forceps, so that the patient's last conscious visual impression is of the instrument to be used, and his last thought that the operation is about to begin before he is sufficiently anæsthetised! Surely such faulty technique is liable to produce a state of nervous apprehension likely to prevent the smooth anæsthetisation which is so desirable.

Some will have heard more than once the dictum that the correct stance for the operator is "with the material to be used as a throat-pack, either taped marine-sponge or cotton wool, in the left hand, the instrument correctly grasped, *i.e.*,

with the little finger between the handles in the case of forceps, in the right hand, with the points still immersed in the antiseptic solution, the eyes on the anæsthetist and patient, the soul full of hope, and wits about one," and if these requirements are fulfilled, the operator can do no more until his anæsthetist indicates that it is time to proceed. It cannot be too strongly stressed that the operator should be absolutely and completely prepared before ever the induction is started, so that perfect silence (again to prevent stimulation) may be maintained during the earlier stages of anæsthesia. It is undoubtedly disconcerting to the patient to hear the anæsthetist discussing with the operator the possible winner of the 2.30 p.m. race, or other important business, and to conclude that the anæsthetist has, at any rate, not all his attention upon the work in hand.

In the teaching of this Dental School there is some deviation of opinion as to the order of removal of teeth, but it is universally agreed that the operator should have in his mind a mental picture of the position and condition of *all* the teeth to be removed and a definite plan as to the sequence of their removal. If it is found not possible or undesirable to remove all condemned teeth at the current operation no harm is done, but if it is found that more than was anticipated can be done, then waste of time occurs in deciding what the next move shall be, and this would not be so if a clear mental picture and plan had previously been gained. It has already been indicated that any extremely loose tooth should be removed first, and undoubtedly the next to receive treatment should be any painful tooth which may be present.

(*To be continued.*)

Sport

Guy's Hospital Annual Sports

ON Saturday, May 12th, the Hospital Sports were held on the Clubs' Union Athletic Ground at Honor Oak Park in glorious weather, and the spectators were rewarded with a splendid afternoon's sport. The arrangements were admirable, and all the events were carried through with very little delay.

On the Thursday previously, the three miles championship was decided, and once again A. E. J. Etheridge, who ran so well in the University of London Sports, was successful, and at the same time set up a Hospital record. Records were also established in the one mile by the same runner and by P. Griffin in the 120 yards hurdles. Both races were very exciting, as in the mile Dryland, last year's winner, made Etheridge go all out in the last 50 yards.

Du Toit, who is in his first year at the Hospital, ran extraordinarily well, and in winning the 440 yards and 100 yards put himself in the running for the Clement Lucas Cup. He and Griffin were level until the latter won the long jump, when Du Toit decided he would have to win the half-mile. Lying third to West and Tilly, Du Toit showed a terrific finish, to win in the fast time of 2 minutes 5 4/5 seconds. He was too tired, however, to show his best form in the 220 yards, which Griffin won, and so retained the Clement Lucas Cup.

In the Medical *v.* Dental tug-of-war the former were successful for the first time in some years, and they also won the relay by a close margin.

At the end of the afternoon, Mrs. Eckhoff very kindly presented the prizes, and the President, Mr. Davies-Colley, congratulated the secretaries on the success of the meeting. He pointed out that the standard of athletics in the Hospital was steadily improving, as evinced by a small team getting third place in the University of London Inter-Collegiate Sports, and he hoped that as many as possible would come to Motspur Park on Saturday, May 26th, and encourage the team in their effort to win back the Inter-Hospitals' Shield, which had escaped this Hospital for the last ten years.

A vote of thanks was passed to Mrs. Eckhoff and Mr. Davies-Colley.

RESULTS

Championship Events

100 *Yards.*—1. D. Du Toit; 2. P. Griffin; 3. P. S. Clarke. Time, 11 secs.

Throwing the Javelin.—1. A. G. T. Brown; 2. P. H. Denton; 3. A. R. Leask. Distance, 119 ft. 8 in.

120 *Yards Hurdles.*—1. P. Griffin; 2. R. O. Yerbury; 3. L. Quick. Time, 16 2/5 secs. (Hospital record).

1 *Mile.*—1. A. E. J. Etheridge; 2. J. W. Dryland; 3. D. J. Lyon. Time, 4 mins. 37 4/5 secs. (Hospital record).

Throwing the Discus.—1. A. R. Leask; 2. A. G. T. Brown; 3. D. Du Toit. Distance, 83 ft. 5 in.

440 *Yards.*—1. D. Du Toit; 2. P. Griffin; 3. T. E. J. Thomas. Time, 54 1/5 secs.

High Jump.—1. L. C. B. Revill; 2. R. O. Yerbury; 3. P. Griffin. Height, 5 ft. 3½ in.

Long Jump.—1. P. Griffin; 2. L. C. B. Revill; 3. D. Du Toit. Distance, 19 ft. 11½ in.

Putting the Shot.—1. E. R. J. Walmsley; 2. L. Quick; 3. A. G. T. Brown. Distance, 32 ft. 2 in.

880 *Yards.*—1. D. Du Toit; 2. R. West; 3. R. Tilley. Time, 2 mins. 5 4/5 secs.

220 *Yards.*—1. P. Griffin; 2. P. S. Clarke; 3. D. Du Toit. Time, 24 secs.

3 *Miles.*—1. A. E. J. Etheridge; 2. J. W. Dryland; 3. K. A. Keith. Time, 15 mins. 40 secs. (Hospital record).

Clement Lucas Cup

(Awarded to the competitor obtaining the highest number of points in Championship Events)

1. P. Griffin, 22 points; 2. D. Du Toit, 18 points; 3. A. E. J. Etheridge, 10 points.

Other Events

Obstacle Race.—1. J. A. R. Smit; 2. A. R. Leask; 3. J. L. Harrington.

Staff Race.—1. G. Pascoe; 2. L. H. Goodliffe; 3. G. Howard.

100 *Yards Handicap.*—1. F. L. E. Musgrove; 2. R. H. F. Pearce; 3. T. E. J. Thomas.

Visitors' Race.—1. K. E. J. Fletcher; 2. W. J. Drummond; 3. — James.

Ladies' Race.—1. Miss Watts.

440 *Yards Handicap.*—1. A. G. T. Brown; 2. T. E. J. Thomas; 3. E. E. Lewis.

Tug-of-War.—Medicals beat Dentals by 2 pulls to nil.

Relay Race.—Medicals beat Dentals by 2 yards.

Swimming

THE Swimming Club commenced the season well by defeating St. Mary's Hospital in a six-a-side relay and at water polo by 5 goals to 3—Laing 2, Smit 2, Palin 1, scored for Guy's.

On Friday 4th, we met Bart.'s at the Lavington Street Baths. Unfortunately, they were weakly represented, and we won the swimming by 3 events to 1 and water polo by 8 goals to 1.

Results

100 *yards.*—1. A. M. Edwards (Guy's). 2. J. C. Newbold (Bart.'s). Time, 62 1/5 secs.

33 1/3 *yards.*—1. T. L. Weston (Guy's). 2. D. P. King (Guy's).

Diving.—1. D. G. Evans (Bart.'s). 2. C. A. Brockbank (Bart.'s).

Relay.—1. Guy's. Time, 1 min. 51 4/5 secs.

Reviews

Clinical Pathology. By P. N. Panton, M.B., and J. R. Marrack, M.D. Published by Messrs. J. & A. Churchill, Ltd. Third Edition. Pp. 484. *Price* 15*s.*

THE rapid strides which have recently been made in laboratory technique have necessitated a third edition of this well-known text-book. The wide scope of the work makes inclusion of all the recent advances difficult, but the authors have taken care to emphasise the more useful methods and have not hesitated to consult their colleagues who are versed in the more specialised subjects.

Clinical pathology is an enormous subject and embraces microscopic and chemical investigations of every normal or abnormal body substance. We are familiar with the exhaustive volumes which have been written on its branches, but few books give such a compact summary of the whole. It is the ideal guide to laboratory technique, not for the specialist, but for the practitioner or medical officer who may have to carry out an unfamiliar investigation.

The first two sections are devoted to the blood and parasites, including bacteria. The rest of the book concerns the examination of the various systems and gives an outline of the procedure to be adopted in obscure cases. The section on histology is sketchy, and one feels that this particular subject is better left to a fuller work.

The print is clear and the paper excellent. This new edition of a book of proved value is welcome.

Hospital Information, etc.

Notices

Guy's Hospital Medical School

SCHOLARSHIPS IN ARTS AND SCIENCE

The following awards have been made for 1934 :—

Entrance Scholarship in Arts of the value of £100—
Henry Fletcher Lunn, Berkhamsted School, Herts.

War Memorial Scholarship in Science of the value of £200, *Divided between*—
Arnold Bloom, The King's School, Chester.
Alwyn Roy Bradley, Royal Grammar School, Worcester.

Entrance Scholarship in Science of the value of £100, *Divided between*—
Arnold Bloom, The King's School, Chester.
Alwyn Roy Bradley, Royal Grammar School, Worcester.

Confined Scholarship in Science of the value of £100, *Divided between*—
Dhavi Tumrasvin, Brighton Technical College and Preliminary Science Classes, Guy's Hospital Medical School.
Hugh Wormald, St. John's College, Johannesburg, South Africa, and Preliminary Science Classes, Guy's Hospital Medical School.

T. B. JOHNSTON, *Dean.*

THE ADRIAN STOKES MEMORIAL FELLOWSHIP

Applications are invited for nomination to the Adrian Stokes Memorial Fellowship. The Fellowship is open to duly qualified Medical Practitioners or Graduates in Science in Pathology or Bacteriology.

Applicants must not be more than 30 years of age and must be anxious to carry out further study in Pathology or Bacteriology in any of their branches.

The Adrian Stokes Memorial Fellow is required to carry out this study during a period of not less than six calendar months in his year of tenure, at a University, School or Hospital or other institution, subject to the approval of the School Council, except the school in which he has received his medical or scientific education. The Fellowship is of the value of approximately £300.

Applications for nomination to the Fellowship must be lodged with the Dean, Guy's Hospital Medical School, London Bridge, S.E.1, not later than June 23rd, 1934.

Salomons Infant Welfare Centre

Applications are invited for the post of Assistant Medical Officer to the Salomons Infant Welfare Centre.

The honorarium is at the rate of £78 for one session weekly, on Thursday afternoons.

Applications should be addressed to the Treasurer, Guy's Hospital, on or before Wednesday, June 6th.

Copies of testimonials will not be required, but candidates should submit the names of one or two persons to whom reference may be made.

H. L. EASON,
Superintendent.

Guy's Hospital Dental School

The following awards have been made for 1934 :—

SCHOLARSHIPS IN ARTS AND SCIENCE

War Memorial Scholarship in Arts, of the value of £40 *per annum for four years*—
Talbot Noel Praat, Bedford School.

Entrance Scholarship in Science, of the value of £40 *per annum for four years, Divided between*—
Edgar Kenneth Breakspear, Southend-on-Sea High School for Boys.
Walter Linnæus Trick, Neath Intermediate School.

T. B. JOHNSTON,
Dean.

Appointment

A. Simpson-Smith, M.Ch., F.R.C.S., Surgeon to Hospital for Sick Children, Great Ormond Street, W.C.

Change of Address

M. E. M. Jago, M.D., Stafford House, Church Road, Sutton, Surrey.

Births

GILBERT.—On March 27th, 1934, at Mongu, Barotseland, Northern Rhodesia, to Margaret (née Toulson), the wife of F. W. Gilbert, M.D., D.T.M. & H.—a daughter.

JOYCE.—On May 3rd, 1934, at King George V Hospital, Malta, to Nancy (née Bass), wife of Surgeon-Commander A. de B. Joyce, R.N.—a daughter.

Eds. { G. L. B. T.
D. P. K.

GUY'S HOSPITAL GAZETTE

A Journal of Medicine, Surgery, Dentistry and Hospital News.

PUBLISHED FORTNIGHTLY.

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PASSIM

AS we go to press the sky is overcast and there seems a possibility that the reign of the drought will be brought to a welcome end. In many parts of the country the water shortage has become more than an inconvenience, and has become a menace to the health of the community. Whereas we, who live in the College, usually complain bitterly of the trials endured every morning as we make our way along endless corridors and down cold stone stairs to our morning bath, we now count ourselves lucky, and we sympathise with the persevering but fastidious gentleman who is reported in the daily papers to travel twice a week from the country to have a bath in London. Few of us are sufficiently conscious in the early hours of the morning to think seriously of economy in the matter of water, and we still linger beneath the shower washing away the enervating effects of the Borough night air.

The drought at least has brought relief for those living on the inner side of the College building, in that they no longer suffer the torture of having their precious matutinal slumbers disturbed by the swish-swash of the College hose playing round the roof of the Pavy Gymnasium. Those on the outside of the College, however, are less fortunate, for there has been no curtailment in the activities of the Bermondsey wash-and-brush-up machine, which still makes a few practice runs up and down Sparrick's Row at about midnight before going further afield.

HALF John Ward is to be boarded off for the temporary accommodation of the Children's Department during the building of the new paying block. This arrangement strikes us as being singularly unfortunate; the male patients in Clinical are to endure the cries of babies at all hours of the day and night, in addition to their already heavy discomforts. The washing accommodation of adults and children is, apart from a new sink, to be shared, and there is but one lavatory for the whole company. The private room is to be set aside for Sister Babies, which will deprive the Hospital of a source of income, and the children themselves will never breathe the open air, balcony space being too small.

The plight of the Clinicals is little better. They are to be deprived of ten beds, which leaves them an average of five each. To the keen man this is poor compensation for the expense of the appointment, together with the possibility of being dropped, which ever hangs, like the sword of Damocles, above his head. But we would not suggest reducing the number appointed, as it is only after doing Clinical that a man's worth as a potential house officer can be gauged.

Perhaps the authorities overlooked two alternative *pieds-à-terre* for the children. We refer to the Pre-Clinicals' Room, on top of Out-Patients, which could have been easily converted, and to those rooms in the Massage Department which were fitted so that they could be used as wards should the need arise. But the hammer and plank are already invading Clinical, and these suggestions come too late.

FOR all the largeness of her family, and with progeny in most parts of the world, Guy's, as an Alma Mater, always takes pleasure in learning of the achievements of her *alumni*. The most recent occasion for this has been provided by the Admiralty announcement that Surgeon Rear-Admiral

R. W. B. Hall, C.B.E., O.B.E., has been appointed Medical Director-General of the Royal Navy.

The Hospital contemporaries of this distinguished officer will like to know that under this formal and impressive style is disguised the genial and popular personality of Basil Hall, who in his day captained the Soccer 1st XI, was a redoubtable member of the Artists' Rifles, and whose wit (he was young and less responsible then) found a congenial place in the daring columns of the *Guyoscope*.

Now he has attained the topmost position in his profession. His old Hospital is delighted, and congratulates him all the more warmly as the first M.D.G.R.N. to come from Guy's.

WE would like to express our deepest regret at the untimely death of Nurse Everett a few days ago from septicæmia, contracted in the course of her duties here, and we hope to include an obituary in the next number.

WE offer our heartiest congratulations to Mr. A. Simpson-Smith on his appointment as Surgeon to the Great Ormond Street Hospital.

Infections of the Hand

By N. L. Eckhoff, Esq., M.S., F.R.C.S.

INFECTIONS of the hand are extremely common, and this alone gives me good reason for presenting this subject to you. But, as is so often the case with common conditions, very little thought is given to their prevention and treatment. In consequence, infections of the hand are often allowed to progress until serious complications ensue, leading sometimes to loss of part of a finger, sometimes to the loss of more than part of a finger, and sometimes to loss of life itself.

I have not time to dwell on the beauties of the human hand, whether looked at from an æsthetic, anatomical or functional standpoint. But I shall have time to mention a few of its anatomical features, and I would ask you to keep constantly in mind its functional importance. We have all seen individuals who appear to be able to master the most skilled crafts—even surgery—with loss of, or loss of function of, a finger or fingers, but it is better for us to regard such a loss as a tragedy, which could have been prevented.

Every infection of the hand must be looked upon as an anatomical problem, and as almost every infected hand is preceded by a wound, every wound of the hand is an anatomical problem. One of the most important steps in the prevention of infections of the hand is to exercise the greatest care in the cleansing of all wounds, punctured, incised or lacerated. In the case of punctured wounds, it is wise to induce the wound to bleed, by passive congestion, to steep the part in antiseptic—spirit or iodine—and to keep an elastic band round the base of the finger, sufficiently tight only to cause venous congestion. If there is any fear of bacterial contamination, as in punctures occurring during septic operations or autopsies, a few minims of pure phenol should be injected into the spot at once.

In incised wounds very careful search should be made for evidence of damage to tendons, and when the wound is on the dorsum of the fingers, for evidence of direct entry into the joints. I would draw your attention to the fact that only a thin extensor expansion intervenes between the skin and the synovial membrane in this situation. In the absence of such complications, the wound may be sutured, but only after careful cleansing with antiseptic. In lacerated wounds, additional care should be exercised in the excision of crushed and bruised tissues, while suturing is not always possible or advisable. Anti-tetanic serum should be administered.

In one factory the institution of the use of iodine as a prophylactic led to an immediate reduction of infections by 38 per cent. In another series of 3,000 accidents, 44 per cent. reported at once, 41 per cent. used iodine at once; 43 per cent. reported late and failed to use iodine; the remainder were cases where its use was not indicated. From the above number there were 654 infections; 12 of these had used iodine and reported at once; 24 failed to use iodine, but reported at once; 618 reported from one day to one month after receiving the injury, with the part infected—of this number 40 per cent. used iodine somewhat later, while 60 per cent. failed to use it at all. The 36 infections that used iodine or reported at once were all very mild, and did not require incision, while 440 of the group that failed to use it or reported late required incisions, amounting to 1,912 days of total disability. (Kanavel.)

I have already stressed the fact that every infection of the hand requires to be studied anatomically. This was first brought out by Kanavel, whose excellent book, "Infections of the Hand," is now in its sixth edition.[1] A shorter book was

published by the late Mr. Fifield,[2] whilst for those of you who read French, there is a monograph on "Surgery of the Hand,"[3] by Marc Iselin, containing much useful information.

Infections of the hand (one naturally includes fingers) may be grouped anatomically into five chief varieties :—

1. Subcuticular whitlow.
2. Subcutaneous whitlow.
3. Thecal whitlow, or tenosynovitis.
4. Subperiosteal whitlow, or osteomyelitis.
5. Paronychia.

While any of these may co-exist, and one variety may pass into another, as I shall indicate from time to time, it is better to look upon them individually at first. These infections are usually due to staphylococci and streptococci, but let me remind you to be on the look-out for infections with special organisms, the bacilli of anthrax and tetanus—the latter especially in gardening and toy-pistol injuries—of diphtheria and tuberculosis, and the spirochæta pallida. In each of these the correct therapy is specific, and is well known to all of you.

SUBCUTICULAR WHITLOW

Subcuticular whitlow is an infection under the cutis, or outer layer of the skin, and is, in fact, an infected blister. When such a condition is seen, the correct treatment is to dissect off the raised cutis—this causes no pain—and to apply an antiseptic. I prefer spirit or one of the spirity solutions. Even when this has been done there is a tendency for the edge to "grow," and this requires further toilet. There may be a gradual invasion of the deeper layers, and sometimes, notably in fishmongers and butchers (*sic*), the organism is especially virulent, leading rapidly to the formation of a subcutaneous or thecal whitlow.

CASE 1.—This man pricked his finger, and a subcuticular whitlow followed. By the time he came for treatment the dermis had been eroded in parts and the subcutaneous tissue was involved. The finger rapidly subsided on the treatment indicated. (Fig. 1.)

When a blister at the base of the finger gets infected there is a marked tendency towards the formation of an "hour-glass" abscess, connecting together a subcuticular and a subcutaneous collection.

SUBCUTANEOUS WHITLOW

This is the commonest and most important type of infection, for here especially the time and type of treatment adopted will determine whether the end-result is fortune or misery. You will all have seen examples of this condition. Following a wound, sometimes minute, the finger, frequently in the bulbous part over the distal phalanx, becomes swollen, red, hot, tender and useless. Throbbing is present, and the part is strikingly tense. Real fluctuation, never easy to elicit in a finger, should never be awaited.

Fig. 1.
Subcuticular whitlow, becoming subcutaneous.

If the anatomy of the pulp of the finger be studied for a moment it will be found that the subcutaneous fat is held in position by well-marked fibrous bands, forming definite loculi of fatty tissue. The whole of the understanding of the pathology, symptomatology and treatment of the condition depends upon this anatomical fact. Firstly, concerning the pain, tenderness, and tension noticed above. These symptoms are always marked where pus is under pressure, and even a small bead of pus, occupying only one or two loculi, will produce the greatest pain. Within limits, larger collections of pus will produce more pain, until the fibrous septa are broken down, when the pain may be less. (In carbuncle of the back of the neck, where the anatomical arrangement of the fat is similar, pain and tenderness are characteristic symptoms.)

Secondly, concerning the progress of the condition. Progress is relatively slow, nevertheless sure, for the pus must rupture from one loculus to another as it spreads. This is our greatest danger, for the finger may not appear to be getting daily much worse, and the pain is disguised by counter-irritation in the form of hot baths, hot fomentations, poultices and other fatal local applications. Bathing with, or immersion in, hot

water only leads to generalised redness and tenderness of the finger, which makes diagnosis much more difficult, and is no lasting comfort to the patient. Fomentations and poultices only tend to scald the part at first, and soon get cold and wet. This only serves to increase œdema, and may even spread the infection, especially if there is already an open wound, or if the part is at all hairy. There are occasions when hot fomentations are of use in the after-treatment, and this is limited to 24 or 48 hours, but their use in the pre-operative stage is fraught with a sense of false security, leading to a dangerous masking of the true signs. Radiant heat, which can easily be obtained wherever there is an electric light bulb, is very satisfactory.

Thirdly, concerning the treatment. It is absolutely essential that pus under pressure should be liberated at the first possible opportunity, and that every loculus should be opened up. This can only be attained by a careful anatomical dissection of the infected part, and for this reason a complete anæsthesia is required. In an early case block anæsthesia of the finger is excellent, but in later cases general anæsthesia is indicated. Local application of ethyl chloride is extremely unsatisfactory, for, whilst producing much pain during the induction, it causes great hardness of the skin and doubtful anæsthesia of the deeper tissues. Gas is only permissible if the anæsthetist will guarantee perfect relaxation for an indefinite period.

A tourniquet must be used, either in the form of a strip of rubber round the base of the finger or a sphygmomanometer round the arm. I have elsewhere pointed out that this is the only safe tourniquet for the upper limb.[4]

The presence of pus is indicated by the finding of any spot of exquisite tenderness in a finger which bears the signs of acute inflammation, and this is an absolute indication for operation. It is wise to investigate a doubtful case with a probe or other blunt instrument, when the smallest loculus will not escape notice. The incision is made over the site of maximum tenderness, and, as the finger is hemispherical in shape, a lateral incision is as efficient in opening up a collection as any other. In fact, a median incision should never be employed. A lateral incision has the advantage that it can be extended downward over the tip in the form of a horseshoe if necessary, or upwards into the hand, if that is indicated. If possible, the region of the skin flexion creases should be spared. Rubber dam is inserted (for about 48 hours), dry or hypertonic dressings are applied, and the arm is placed on a splint, in a sling. Early hospitalisation reduces the total invalidity by about 33 per cent.

Let us here consider the dangers of imperfect treatment. The infection, if unrelieved, will surely progress insidiously, until the tension is such that the blood supply to the bone is cut off. Necrosis follows, and this is only too often seen in the case of the diaphysis of the terminal phalanx, for its artery of supply runs through the pulp of the finger. Alternatively, the bone may be involved by direct spread. Next the pus will travel steadily into the proximal parts of the finger and may, when it has reached the web, pass through to the dorsum. From the base of the finger the pus will tend to pass into the palm of the hand. It usually follows the line of the lumbrical muscle which leads to the thenar or middle palmar space. (Fig. 2.)

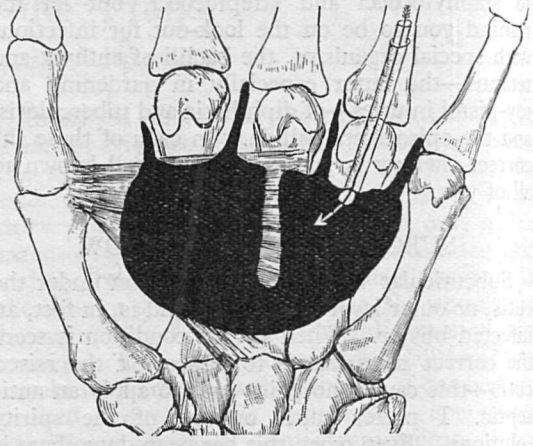

Fig. 2.
Thenar and middle palmar spaces, communicating. (Kanavel.)

These are important potential spaces lying between the flexor tendons in front and the interosseous muscles behind. They can be accurately marked out in the hand, and are usually separated by a process of fascia which passes to the third metacarpal bone. When either is infected loss of the normal hollow of the palm is the characteristic sign. The middle palmar space is opened up by extending the lateral incision utilised on the finger (preferably along the side of the lumbrical muscle, *i.e.*, radial) and passing a pair of forceps deep to the flexor tendons; the thenar space is opened up either through an incision in the web between the thumb and the index, or by an incision on the dorsum, along the radial side of the second metacarpal, plunging the forceps through the first dorsal interosseous muscle. (Fig. 3.)

CASE 2.—Male, aged 24. January 17th, 1932, cut his right hand at work and developed a subcutaneous infection. He had four operations before being admitted to hospital on February

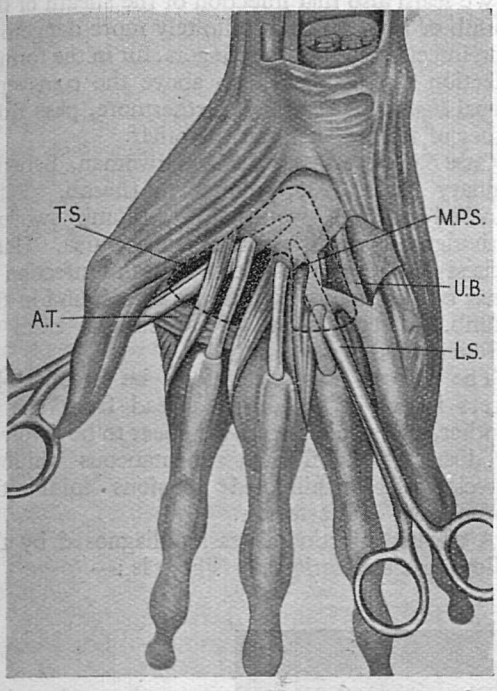

Fig. 3.
Forceps in thenar and middle palmar space. (Kanavel.)

26th. He was operated upon under general anæsthesia, with a tourniquet, and the middle palmar space was opened up. Recovery was delayed by some necrosis of the fourth metacarpal and by an intractable stiffness of the small joints. He attended hospital till July 29th, 1932. (Fig. 4.)

Fig. 4.
Showing incision for draining middle palmar space.

Let me here draw attention to swelling of the dorsum following infections of the volar aspect. In nine cases out of ten there is no pus on the dorsum except in those cases, previously mentioned, where there is a spread in the region of the web. The swelling is purely œdematous, and incision is not indicated. The following is a case where dorsal incision led to an opening up of the interphalangeal joint, with destruction of the phalanges bounding it :—

CASE 3.—Male, aged 38. Out-of-work one-legged pensioner. On November 7th, 1932, he ran his scissors into his thumb, on the volar aspect. The finger became swollen, and an incision was made on the dorsum (misguided). On December 7th he was admitted to hospital with a suppurating wound leading to the interphalangeal joint, with lymphangitis extending up the arm. He also had a boil on the right leg, from the rubbing of his artificial limb. Treated with Bier's passive congestion and hypertonic saline dressings. On December 28th the terminal phalanx and part of the proximal phalanx were removed, and the rest of the proximal phalanx sequestrated later. Progress was delayed by generalised furunculosis. (Fig. 5.)

Fig. 5.
Misplaced dorsal incision.

I have indicated how the middle palmar and thenar spaces may become involved, and how the bone is easily destroyed through a cutting-off of its blood supply. A complication worse than

either of these is a spread of infection to the tendon sheath.

Let me first draw your attention to the anatomy of the flexor tendon sheaths of the hand. The sheath of the flexor longus pollicis runs from the base of the terminal phalanx of the thumb to a point an inch above the transverse carpal ligament. The sheaths of the index, middle and ring fingers run from the base of the terminal phalanx to a point in the front of the metacarpo-phalangeal joints. The sheath for the little finger communicates in the palm with the large common sheath of flexor digitorum sublimis and profundus, which in turn extends above the transverse carpal ligament. This is sometimes called the ulnar bursa.

From these anatomical facts we learn many lessons. As in each finger the sheath extends distally only as far as the base of the terminal phalanx, it is not usually endangered in every-day pinpricks, which mostly fall on the bulbous part of the finger. But it may be infected in this way, by direct injury.

We learn also that infection of the sheath of the thumb or little finger is infinitely more dangerous than infection of the other fingers, for in the former infection rapidly passes up above the transverse carpal ligament. It may, furthermore, pass from either of these sheaths to the other.

CASE 5.—Female, aged 63, charwoman, diabetic, January 22nd, 1933, splinter in thumb. 24th, knocked hand at work. 25th, thumb swollen, with signs of involvement of ulnar bursa. Hand incised 25th, 26th and 27th. Definite infection of ulnar bursa, though no pus was ever found in the thumb. I have seen several similar cases at different times.

The sheaths may, therefore, be involved by direct injury or by direct spread from one to another, and sometimes they appear to be involved by direct spread from a subcutaneous whitlow, especially is misdirected incisions injure the fibrous coat of the sheath.

A sheath infection is easily diagnosed by the following characteristics. There is :—

Fig. 6.
End result of tenosynovitis

CASE 4.—A colleague of mine, operating on a case of pneumococcal peritonitis, pricked his right index finger, and in a few hours had pneumococcal tenosynovitis, and very nearly died from the septicæmia resulting. He was lucky to escape with his life and with his finger, though this is now stiff.

(*a*) Uniform swelling of the whole finger.

(*b*) Exquisite tenderness over the line of the tendon, particularly at its proximal end.

(*c*) A maintenance of a position of flexion.

(*d*) Pain on passive movement, especially extension.

Treatment is by lateral incision in the line of the tendon, opening the sheath freely, leaving possibly a little support opposite the joints to prevent excessive prolapse of the tendon. In the case of the thumb and little finger, it is preferable to spare the transverse carpal ligament, and to incise again above it, though in a bad case this, too, should be cut through, and ligatures applied to the superficial palmar arch and large branches of the radial and ulnar arteries.

CASE 6.—Male, aged 36, labourer. February 4th, 1932, small blister on terminal phalanx, right middle finger. 10th, tender along tendon. Finger incised in casualty department. 12th, re-incised, saline baths. 15th, admitted to hospital; two incisions made on flexor aspect to open tendon sheath fully. 19th, further incisions. March 15th, as X-rays revealed necrosis of bones, and both interphalangeal joints were involved, amputation was carried out. Quick recovery. (Fig. 6.)

Complications of incomplete treatment are :—

1. Rupture into the thenar or middle palmar space.
2. Rupture into the forearm, between the flexor tendons and the pronator quadratus.
3. Involvement of bones—phalanges, metacarpals and carpals.

The following case illustrates these complications :—

CASE 7.—Female, aged 45. August 24th, 1926, pricked her thumb cleaning fish, where a subcuticular whitlow appeared. 26th, the whole hand was swollen and tenosynovitis of the little finger sheath was manifest. Admitted; sheath incised. A day later thin pus was present above the wrist and the space behind the flexor tendons was drained. Bacteriological examination revealed Staphylococcus aureus and Streptococcus longus, and anti-streptococcal serum was administered daily. September 7th, secondary hæmorrhage required ligature of the radial and ulnar arteries in the forearm. 17th, the carpal joints were now involved, and the first row of the carpus was excised. 24th, anti-streptococcal vaccine exhibited. November 15th, discharged. January 31st, 1933, she had a rigid wrist and carpus, with fusion of the bones, and stiffness of the carpo-metacarpal and metacarpo-phalangeal joints, in a position of flexion. (Fig. 7.)

This case, therefore, illustrates the worst that can happen in the way of complications following a suppurative tenosynovitis, itself a sequel of a prick with a fish-bone.

The results of these two cases are admittedly bad, and I have been struck lately by the arguments put forward by Iselin[3] for more limited incision. He likens the tendon sheath to a thermometer with the bulb proximally, and shows that efficient drainage can be obtained by two lateral incisions at the proximal end of the sheath. I am tempted to try this at the next opportunity.

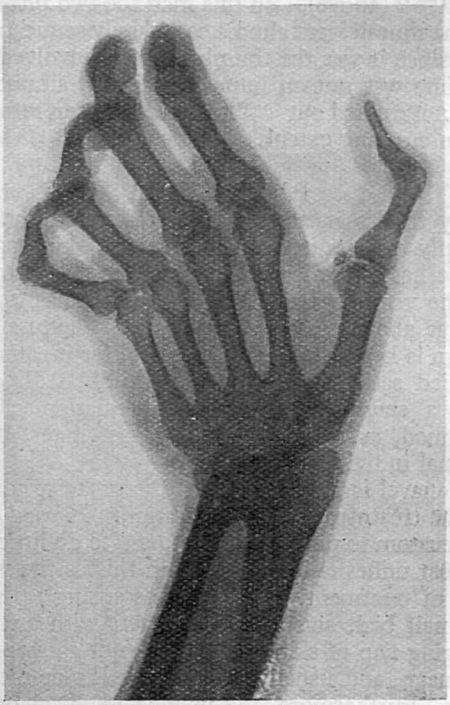

Fig. 7.
X-Ray showing end result of tenosynovitis with complications.

SUBPERIOSTEAL OR BONY WHITLOW

This is usually an extension from one of the foregoing varieties, though it may occur as a result of direct injury, as in a compound fracture. The bone necroses freely, and has then to be removed. The diaphysis of the terminal phalanx is most frequently lost in this manner, though other bones may be affected.

CASE 8.—J. G., male, aged 31. This man injured his finger on March 20th, 1934, sustaining a wound on the dorsal aspect. The finger became swollen and tender, and he attended the Out-Patient Department from the 22nd to the 28th, when he was admitted. The finger was incised on the 29th and 31st and pus evacuated. By this time gross infection of the first interphalangeal joint was manifest, and the X-ray revealed destruction of joint cartilage and necrosis of the first phalanx.

When an interphalangeal joint is involved in a working man, amputation is indicated, for by

conservative treatment the best that can be hoped for is a stiff finger, after often many months of suppuration. Yet it is remarkable how much bone may be reformed.

CASE 2 (above).—In this man the two phalanges of the thumb were almost completely sequestrated, but since it was the thumb that was involved, and as time was not an important factor, amputation was not carried out. The bone has been reformed to an amazing extent.

PARONYCHIA

By this is meant an infection round the nail, usually the sequel to an inflamed skin tag. A horseshoe-shaped red swelling occurs proximal to the visible part of the nail, and pus may discharge about the base of the nail. Fluctuation as a sign is here especially deceptive, for it cannot be applied satisfactorily in a longitudinal direction, and a sense of transverse fluctuation can be obtained, as in most parts of the finger, in the normal individual.

Kanavel is responsible for the greatest advance in the treatment of this condition. It used to be the custom to pull the nail off, and to do little else. I must unhesitatingly condemn this as the wrong line of treatment. Granulations spring up about the nail bed, and a pocket is left with an overhanging flap of skin, which does not allow of free drainage, and usually takes six weeks or more to heal. Furthermore, the unaffected distal part of the nail is torn off, leaving a very tender finger.

The anatomical situation of the pus is between the proximal part of the nail and the nail bed. The correct treatment is thus to expose this by one, or sometimes two, lateral incisions, in the line of the edge of the nail, turning back the flap thus created, and to remove the proximal part of the nail only. (Fig. 8.) The lateral incisions are to be made carefully to avoid damaging the nail bed, or a permanently split nail may result. A strip of vaselined gauze, which allows for free exit of discharges, is placed under the skin flap to prevent too early healing, though this may be discarded in a few days, and the finger is usually well in ten to fourteen days.

OTHER TYPES OF INFECTION

There are a few other types of infection that require special notice.

Lymphangitis is an important condition which must be distinguished from those already mentioned. In this there is redness and swelling of the finger, with no marked tension, no point of exquisite tenderness, and no intense pain on movement. There may be red lines extending up the arm, marking out the lymphatic vessels, and there is usually pain in the regional lymphatic glands, even before these are swollen. There is a very intimate plexus of superficial and deep lymphatics in the hand, and, since drainage by this route is thus remarkably free, it is not surprising that in these cases the constitutional disturbance is very profound.

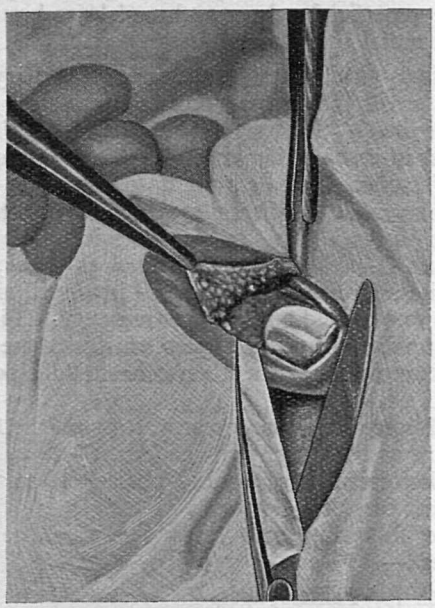

Fig. 8.
Operation for paronychia. (Kanavel.)

Rest in bed is especially essential, with the arm on a splint, with heat, preferably dry, applied. Bier's congestion is useful in limiting the absorption of toxins. I have indicated that there is no especial point of tenderness, and incision is, therefore, not only not indicated but is definitely dangerous, for it tends to open up new tissue planes and increase the absorption. The infecting organism is usually a streptococcus, and antistreptococcal sera are often of great value. In other words, the treatment is essentially general.

Carbuncles and Boils may occur on the hand and fingers. In these we have a staphylococcal infection, often starting in a nail follicle, spreading into dense subcutaneous tissues, leading, therefore, to great tension, indicated by great pain and tenderness. Kanavel maintains that free drainage is essential, and this is obtained by cruciate incisions through the centre of the infection, with undercutting of the four flaps thus created, but I have recently seen remarkable results with the use of a Bier's cup, and this should always be tried first. I believe that incisions will seldom, if ever, be necessary. Hypertonic solutions of magnesium

sulphate or saline are very useful as a dressing. Here I might mention the pernicious practice of squeezing such lesions. It can only do harm, by further macerating the tissues. Cupping is an excellent method of withdrawing pus.

Dorsal Infections require passing notice. As indicated, they hardly ever occur through spread from the volar aspect (except in the region of the web), and, while much less common, are usually due to direct injuries. As the hand and fingers are free of dorsal tendon sheaths, these infections are usually uncomplicated, and, except when they open up joints, respond well to treatment by simple incision.

daily, with the hand in a hot saline or hot-air bath, and active movements are to be encouraged, lest, following an infection of one finger, the whole hand in beset with an intractable stiffness.

Hot moist dressings are to be avoided. Spirity solutions, hypertonic salines, or solutions of magnesium sulphate may be applied, provided always the incision is sufficitn. Bier's passive hyperæmia is an excellent adjuvant, especially in lymphangitis, and is applied by placing a soft rubber band either around the finger or around the arm, not too tightly, for as long as the patient can tolerate it.

I have not attempted to be exhaustive in this paper, but I have dealt with the commoner conditions as we see them in hospitals.

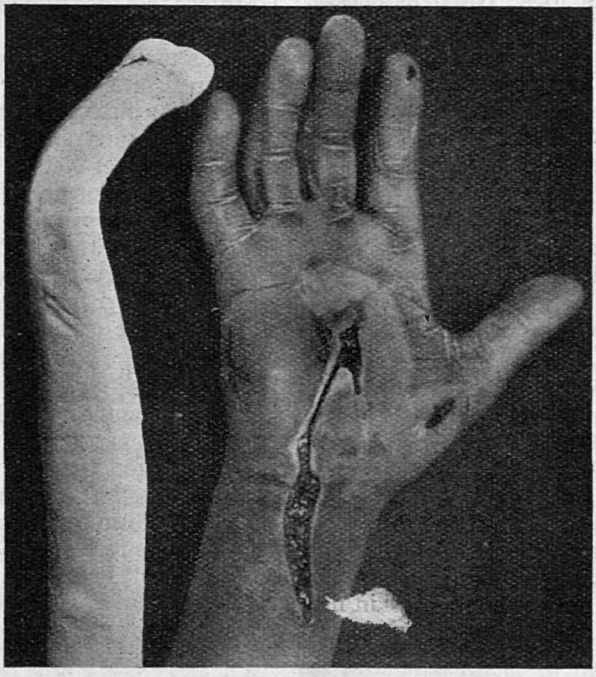

Fig. 9.
Superficial palm infection, with splint used.

SUMMARY

I have indicated the importance and gravity of infections of the hand and fingers, especially those of the flexor aspect, and especially those occurring in certain trades, *e.g.*, fishmongers and butchers. I have indicated how these infections must be classified anatomically. I have also indicated the correct surgical treatment in each case. Rest, with splint and sling, and preferably in bad, is essential at first. A plaster splint in the " position of function " (wrist dorsifixed and fingers partly flexed) is excellent. (Fig. 9.)

Once the infection is in check, splints and dressings are to be removed for increasing periods

I have to thank Mr. C. H. Fagge and Mr. E. G. Slesinger for permission to record cases 4 and 7, and the author and publishers of Kanavel's book (Messrs. Lea & Fibiger, Philadelphia) for some of the illustrations ; also the *Lancet* for loan of blocks for the illustrations.

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From the Case-Books of a Parisian Consultant of the Sixteenth Century

By E. W. Goodall, Esq., M.D.

(*concluded*)

In these books of Baillou's you will every now and then come across remarks which are in some cases wise and shrewd and in others quaint and curious. Here are some of them :—

Referring to the use of charms which had been used to cut short fever in a certain case, he says : " It is preferable to be ill of a disease of which the cause is known than to be cured of one of which the cause is unknown." And again, in respect of the case of a man who had had recourse to the enchantments of certain quacks and had at first appeared to receive benefit, but had then died : " It should be noted that it is a matter of no little importance should the patient appear to be quit of his illness in some way or other without manifest cause."

Mercury was in repute as a remedy in Baillou's days. Of it he writes that it acts against corrupt seeds (*semina*), because it is itself the seed (*semen*) of all the metals. There is an analogy between a seed and mercury. Wherever there is a seed which is the cause of corruption, there mercury, by a sort of antipathy, will pursue it. Baillou, however, had no conception of the *contagium vivum* which was postulated by his contemporary Fracastor.

" Many careless persons are carried off by an inflammation of the lungs, and yet at an autopsy not a vestige of inflammation (*flamma*) is to be found. But this is a fact which the ignorant (*idiotæ*) pay no heed to." In *idiotæ* he seems to be alluding to medical practitioners.

In discussing the case of a numerous family in Paris he states that, while some of the children take after the father, others take after the mother (for instance, in respect of the action of purgatives), and he concludes by remarking " how important it is, in order to carry out treatment with prudence, not only to have a knowledge of the State, the city and the house, but also to bear strongly in mind the idiosyncrasy of every individual."

Baillou observed in the second " constitution " of 1571 that of many people who were attacked by a quartan fever nearly all who went without treatment recovered, while nearly all who were carefully treated died. In another passage he asks : " If a patient is bled and gets well, is his recovery due to the venesection ? " And he relates two cases, in one of which purging was adopted instead of bleeding, and in the other bleeding was ordered but not performed, and both the patients recovered.

Elsewhere Baillou asks how it is that a large number of persons enjoy perfect health for a long time without being bled and physicked, while others, bled and physicked, have uncertain health. He thinks that the latter are endowed with a vicious habit of body and that the frequent purging prevents their nutrition, as Celsus has warned us. How many sick we see who suffer from dysentery or tertian or quartan fever and yet get well without purges. He then quotes the saying of Hippocrates to the effect that Nature is the true physician.

Having occasion to refer to Paracelsus, Baillou calls him "the sworn enemy of the art of medicine," but, he goes on to say, " his opinions are neither to be absolutely credited on the one hand nor entirely rejected on the other, for, in order that affairs may be carried on in a rational manner, we must pay attention not to the speaker but to what he says."

We get glimpses of the rampant quackery of the time in passages in which Baillou inveighs against the too frequent practice of bleeding for pleurisy, for, he says, no doctor dares prescribe any other form of treatment ; it is anathema against him if he does, and he is accused of ignorance. " In regard to pain in the side, forsooth, there is no need to consult a physician. The advice of porters, cobblers and slaughterers, and the silly chatter of women all over the city are thought more of than the judgment of eminent physicians." And again, in another place, he writes : " When anyone is suffering from pain in the side there is no one who is not the equal of a first-class physician ; on this question the barber-surgeon is the master *par excellence*. . . . Has anyone a pain in the side ? No matter what the cause, bleeding must not be delayed for a moment. For, of course, every hare-brained woman, impudent barber and drudge in a slop-shop knows that there are many causes of pain in the side, and that while in some cases it is fatal not to open a vein, so in others to open one is to act cruelly, impiously and ignorantly ! "

Baillou recommends venesection for children who are suffering from severe continued fever : (1) Because the disease requires it ; (2) because it

satisfies the parents, who think it gives the patient the best chance. " In Paris, people prefer that their relatives should be bled; if the latter die after the operation the former are less grieved at the death."

He winds up a discussion on venesection in these terms: Since the blood is formed only after many difficult metabolisms, to open a vein for a trivial reason is to play the part of a butcher and not of a physician, for the blood is the friendly storehouse of Nature. " It is difficult in medicine to devise a means by which you can lay down a definite course of action."

He is severe on the medical practitioners of his time and writes of them that there are many who cloak their ignorance with some specious excuse and publicly give out that diseases which are frequently prevalent are unusual and were hardly known to the ancients.

He follows Galen in emphasising the necessity of remembering that even in apparently mild illnesses sudden death may occur.

After relating the case of a pregnant woman who, when suffering from pleurisy, was confined and was attacked by a dysentery accompanied by a black exanthem all over the body, and yet by some miracle recovered, he exclaims, " Thus women are said to have four lives (*animas*)! "

Of venereal disease he writes, " How various are the consequences of that disease! " He notices, too, that in syphilitics wounds heal with difficulty.

Often a severe disease will suddenly become benign if a local abscess, however small, is formed somewhere.

Baillou was by reputation a fine logician; he does not shine, however, in his arguments in the following case. The daughter of President Turnbulle, of Rouen, was afflicted with a fleshy swelling on the gum and a decayed tooth. There was a question of operation. Against this there was a family disposition. Her father's nose was so big that it appeared to be six times the normal size. The daughter's gingival swelling was analagous to the father's nose. The father wanted to have something done to his nose to reduce its bulk. But it was thought that an operation might set up a carcinoma. The daughter, therefore, was also advised not to have an operation. However, the father consulted some foreign medical men, who did something to the girl's gum, which became worse. " Hence it must be recognised that it is of the highest importance in medicine to be acquainted with the family disposition, so that the diseases which are especially peculiar to it may be comprehended."

He draws attention to the importance that should be attached to the slightest lesion of the female breast, and mentions the case of a woman in whom a rapidly fatal cancer developed after a blow on the right breast.

" All persons of a ruddy complexion are rarely free from disease; their humours are virulent."

" *Audaces fortuna juvat* " is a favourite saying with Baillou. He frequently urges both physicians and surgeons to be less timid in their treatment. However, in dealing with disease in women one must be cautious: " often that which art cannot accomplish or even attempt, Nature, to the surgeon's surprise, will carry through."

Delicate people, who are always anxious about their health, take good care of themselves and are, therefore, often less subject to illness and live longer than apparently more robust persons. Hence the saying, " A cracked pot lasts longer than a new one."

In a note to *Consil.* III, 1, which concerns an Englishman who was the subject of periodical headache, Baillou says that the largest proportion of the English have red hair. This may be the result of dyeing it, which brings about a natural redness. And he refers to Cæsar's *Commentaries*, in which it is stated that the Britons (English) dyed their faces and hair in order that they might appear more terrible in battle to their enemies. Baillou thinks that this custom has led to an hereditary redness of the hair.

In his *De Virginum et Mulierum Morbis Liber*— a work to which Baillou is said to have paid more attention than to any other of his writings and which the great Boerhaave preferred to them— Baillou quotes with approval the saying of a recent writer that " the diligent and scientific cultivation of the diseases peculiar to women affords a splendid and profitable career to the medical man, for it is the habit of the ladies to trumpet abroad the skill of their physicians " (*quod mulieres medicorum tubæ vulgo esse solent*).

Baillou's clinical and pathological experience must have been very extensive. The few extracts I have given show that he was a close and shrewd clinical observer, an anxious inquirer, and a keen and at times a severe critic. But, as I have stated, he lived in a credulous age and was always ready to believe all he was told. His interpretation of what he saw does not, naturally, agree with modern views on pathology. He is constantly asking questions to answer which he was not furnished with the necessary knowledge. But he does not appear to have been at pains to find out the causes of the phenomena he witnessed, at any rate so far as the books from which I have quoted go to

show. He was, with his contemporaries, deeply under the influence of the writings of Hippocrates and Galen, though he does not hesitate to differ from the opinion of those authorities when he is convinced that they are in the wrong. I have, with one exception, quoted only from the three works mentioned at the beginning of this article. In these works will also be found discussions, excellent for that age, on venesection, the use of purges, and the varieties of defects of speech, including stammering. In one of his *Consilia* he lays down an admirable set of rules for the preservation of his patient's health. In taking leave of him now I am conscious that there remain many of his cases and sayings which, were they brought to light, would go to strengthen the conviction that he was a physician who well deserved the praise and esteem of the men of his own day, and is worthy of remembrance even in our more enlightened age.

De Extractionibus

Or The Omnibus Collection of Aids to Removal of Teeth under General Anæsthesia of Short Duration

By H. H. Kenshole, M.R.C.S., L.R.C.P., L.D.S.

(*concluded*)

It must be extremely galling to a patient who has submitted to dental treatment primarily with a view to being relieved of a painful tooth to recover consciousness only to find that the removal of another tooth has presented difficulties, that the whole of the anæsthetic time available has been devoted to possibly an unsuccessful attempt at removing that tooth, and that he still has the originally painful one, coupled with another extremely sore and probably painful site in the mouth. Before the patient is anæsthetised it should be ascertained whether any particularly painful teeth are present, and, if so, attention should first be given to them, unless there is a sufficient and reasonable cause to do otherwise. If none or all of the teeth are sensitive, then the problem is more difficult, and the variation in teaching becomes noticeable. It is generally accepted where extractions from both maxilla and mandible are to be performed at one operation that the mandibular teeth shall be removed first, otherwise hæmorrhage from the maxilla would render difficult subsequent correct and careful application of instruments in the mandibular region. Where extractions are to be performed from both jaws at different times, it is frequently wise to remove the maxillary teeth first, otherwise subsequent removal of these teeth may dislodge infected tartar and other debris, which by gravity would fall into and be detrimental to the sockets of the previously extracted mandibular teeth.

Where both anterior and posterior teeth are to be removed and none are particularly painful or loose, then posterior teeth should be lost before those in front for æsthetic reasons, and also because alveolar absorption in all probability takes place over a longer period in the molar and premolar than in the incisor and canine regions.

Discretion must be used and arrangements made to suit each particular case, but, if one may be allowed for once to generalise, it is unwise to perform multiple extractions under a single nitrous oxide anæsthetic.

It is difficult to suggest a limit, as each individual case varies, but it is reasonable to suggest the maximum number of removals as seven or eight single-rooted or five or six multi-rooted teeth. Undoubtedly speed without haste is desirable when operating with this type of anæsthesia, whereas with general anæsthesia using ether or basal drugs, or with local analgesic, the time factor is of less importance, and therefore less surgical trauma is caused. In the writer's opinion it may safely be stated that the degree of surgical shock arising from the extraction (apart from the anæsthetic factor) of six teeth under N_2O anæsthesia is as great as that caused by the removal of many more under general anæsthesia. Furthermore, the surface area of bony and soft tissue opened up by the removal of a number of teeth is almost incredibly great, and, where infection is present, the amount of toxic absorption which may take place as a result of the removal of six or eight teeth as outlined above is frequently quite as much as can be dealt with satisfactorily by the protective mechanisms of the system.

It is advocated by most teachers that the most posterior teeth shall be removed first. Mr. Doubleday, however, points out that it simplifies matters greatly by getting rid of anterior teeth first, so clearing the way and removing obstructions which otherwise would render difficult posterior extractions. This method is admirably suited where all or most teeth have to be lost, and judicious swabbing with marine sponges removes any blood and mucus which surround the posterior teeth following the extraction of others further forward.

Frequently roots of teeth are present, and where these and other teeth have to be lost it is usually as well to deal with the former first, so that hæmorrhage does not interfere with the correct application of instruments, a procedure for which a clear view of structures at gum level is essential. While referring to this topic, it would seem desirable to stress the usefulness of elevators for removal of roots from the mandible, particularly those roots, a multiplicity of which are sometimes found in the mouth, with carious soft brown tops; the crowns have frequently snapped off a long time previously by reason of progressive cervical caries, and no previous attempt at extraction has been made. In such cases it will be found that the softening carious process has proceeded a certain distance below gum-level, and this makes the hold of the forcep blades negligible unless their points are pressed well beyond the extent of the decayed tissue. Also the caries renders difficult the clear estimation of buccal and lingual margins of the root, and it is so essential that the blades shall be applied exactly to these margins, for too great a width of opening would include gum tissue, while insufficient opening merely tends to push the root further into the jaw, traumatises the surrounding tissues and renders correct application more difficult. On the other hand, the very presence of this carious process leads to softening and destruction of the alveolar bone in close proximity, and so facilitates the passage of an elevator blade down at the side of the root concerned; this is particularly useful if a whole tooth is present in the next socket, the alveolar rim of which may justifiably act as a fulcrum for reasonable leverage if necessary, as utilised in Winter's technique for removal of mandibular third molar teeth. Actually, seldom is leverage necessary, for it may be taken as an axiom referring to single-rooted teeth, more especially those with conical roots, that "the best way to empty the socket is to fill it with the instrument"—that is to say, the driving of an instrument sufficiently deeply into the socket simply by wedge action delivers out the root. It is, however, necessary to stress that the thumb or forefinger of the operator's free hand should be in position over the top of the root to prevent too sudden delivery, and possible migration into undesirable situations. After long and careful watching, trial and instruction in the Extraction Rooms, I have reached the conclusion that this method is extremely useful, easy, more certain of success, and in most cases far preferable to the use of forceps for the same purpose.

While considering the use of elevators mention must be made of Mr. Malleson's most useful tip of driving deeply a thin pointed elevator in close proximity to each root on buccal or labial, and palatal or lingual sides between the cementum and alveolus, to separate the latter (so facilitating removal of the tooth) before a forcep is applied. The instruments he uses are Clevedent pattern elevators, Nos. 301, 302 and 303.

Similarly Mr. Doubleday uses Coupland chisels with hand pressure for stripping alveolar plate and superjacent tissues from both external and palatal sides of maxillary teeth—a most useful procedure, especially in the premolar region and for that bugbear the first premolar tooth with two fine divergent roots.

Consideration of the number and type of forceps to be used leads again to considerable controversy. As already indicated, Mr. Doubleday recommends the use of a minimum number, teaching the use of straight upper forceps as far back as the molar region and of lower root forceps universally for mandibular teeth. Similarly in Edinburgh two pairs of forceps only, namely, Reed's and heavy-pattern Hawksbills, both fashioned by Dr. Guy, are in use at the Dental School. Looking at the matter impartially, however, it would appear that if forceps are made specifically for certain purposes then it is only reasonable to suppose that there should be certain advantages in their use. For instance, bayonet-type forceps are so made that the blades of the instrument may be applied in line with the long axis of a tooth in the posterior part of the mouth in line with the long axis of a tooth in the posterior part of the mouth without the handles fouling the mandible.

Always when operating with nitrous oxide anæsthesia the ideal should be "Speed without Haste," and, with present-day anæsthetists, apparatus and technique, there should be time to allow of the use of the appropriate instruments, even though one or two changes are necessary. The choice of full molar or root forceps for a tooth with crown or portion of crown present appears to be an age-old controversy, and let it be stated that, after prolonged opportunity, I find it quite impossible to lay down any rule, and can tender but little advice to deal with this problem. When first connected with the Extraction Rooms I came into contact with Mr. Pearce, acknowledged, I believe, to be one of the best exponents of dental extractions here at the time, and I feel sure that his teaching always was, "If the roots are still united and it is possible to apply full forceps, then by all means use them." Most of our teachers to-day appear rather shy of using full molar forceps, and there is probably much wisdom in this attitude. Where the surrounding alveolar bone is comparatively soft, as in young persons, it is usually

quite safe to use "full" forceps, but in adults it is probably wise to try first with root forceps, and, if the tooth is found to be so firmly embedded that the grip of the instrument is not sufficient to prevent it sliding on the tooth, then "full" forceps may be used, provided that sufficient pressure is first exerted to force the tips of the blades well towards the apices. Of all, perhaps the most frequent cause of failure in extractions is this tendency not to force the instruments well toward the apical part of the tooth; another dictum which some may recognise is, "Spend three-quarters of the time pressing well down, or up as the case may be, and less than a quarter extracting the tooth."

Here mention should be made of the forceps designed by Mr. Bocquet Bull for the extraction of children's teeth. Those used for mandibular teeth are paired, right and left respectively, and are constructed on the bayonet principle so that the blades may easily be applied squarely to teeth far back without the handles dragging back the corner of the mouth. It would seem that forceps of this shape and of suitable size for permanent molar teeth would be of inestimable value for adults, but I have seen none quite of this pattern. Mr. Bull's designs include those for maxillary deciduous molars, and full details were given in the *British Dental Journal*.

Perhaps to Mr. Bulleid's teaching is due the first decision to put this whole subject on paper, for it is a cardinal point, which he is forever stressing, and which appears to the writer to be so important that the sockets shall be well squeezed after extraction, for in this way the outward displacement of alveolar plate caused by the necessary expansion of the socket is converted into approximation of the plates, the opening of the socket is much reduced, so that hæmorrhage ceases more quickly, the sealing clot is firmer because the gap it has to bridge is considerably smaller, there is less room for debris to enter, when organisation occurs there is a lesser area of granulation tissue through which absorption may take place, and undoubtedly natural healing is quicker. The only circumstances under which this squeezing should not take place are when an acute alveolar abscess has given rise to pus formation, and, unfortunately, it is then that occasionally this procedure is advocated.

Mr. Thompson, in a paper in the *Gazette* not long ago, stressed the undesirability of squeezing a boil, and what is the difference pathologically between a boil and an acute alveolar abscess?

Whilst considering acute alveolar abscesses another aspect deserves recognition. The older registered dentists' practice of declining to remove an abscessed tooth until the acute inflammation had subsided was undoubtedly of value in many cases, and might with reason be adopted on many occasions at the present time. Surely when such a condition develops it is due most frequently to the presence of infection at the *apical* region of the tooth; inflammation and suppuration result, spread centrifugally from this region, and seek a line of least resistance, probably perforating the outer alveolar plate.

If the tooth is removed, pus and infected matter are allowed to well up and flow over the whole of the alveolar wall of the socket, which, except in and immediately around the apical area, is entirely unguarded by a protective barrier, and none will deny that infection of bone is usually worse than infection of soft tissues. If, then, the process has led to perforation of the alveolar plate and the abscess is "pointing" in the sulcus, surely it would be wise to incise through soft tissues, to create drainage with all its blessings, allowing the acute symptoms and signs to subside, as they will most surely do in many cases, and remove the original cause (the tooth) two or three days later, when the danger of infecting the alveolar socket walls has passed.

The same reasoning is apparent in the reluctance of Mr. Kelsey Fry to remove a third molar tooth in the crypt of which acute infection is present, for if extraction is performed, infected matter drops from the crypt down into the totally unprotected alveolar socket and is likely to lead to undesirable consequences, even to necrosis. His practice of incising in the sulcus if a collection of pus is present under tension, of excising the flap under short anæsthesia, or removal of the flap by cauterisation with phenol or trichloracetic acid, all for the purpose of promoting drainage, should be more widely known and followed. Too often to-day the tooth is removed immediately, regardless of possible consequences, whereas great benefit is derived by waiting for the acute stage to subside as a result of correct treatment before extracting under more opportune conditions.

To Mr. Fry should be given credit also for introducing the use of cotton wool as a mouth pack. He explains that marine sponges coated with mucus tend to surpass eels in slipperiness, whereas a sufficiently large piece of cotton wool more effectively packs off the throat, diminishes or prevents respiration by the mouth, reflects more light, and obviates the possibility of foreign bodies passing backwards through the oro-pharynx. Either cotton wool or a marine sponge should always be placed at the back of the mouth before the operation is started. If a marine sponge is used it should be securely tied by tape or a portion

of bandage, and the ends of this tape or bandage should be placed at the side of the mouth away from that upon which work is being performed.

Again probably the most valuable advance of recent times is Mr. Fry's advocacy of the use of a prop in both sides of the mouth, a procedure recommended also by Mr. Doubleday. Previously it has been almost the universal practice when work has to be performed on both sides of the mouth to insert and retain a Mason's or other gag on the side first completed. Mr. Fry teaches the introduction of a second prop in this side, aided, if necessary, by momentary use of the Mason's gag in the side where the first prop remains; with second prop *in situ* the first may be removed and work progress. There is much less liability of damage such as is caused by Mason's from time to time even in the hands of the best anæsthetists, and, furthermore, the necessity for the latter to control the gag is entirely avoided, and he frequently requires both hands to perform other necessary functions. Mr. Rix recently designed a prop the vertical stem of which is slightly convex forwards and joins the posterior ends instead of the middles of the occlusal plates, thus facilitating the introduction and opening of the Mason's immediately behind it, by preventing the catching of the blades between the back ends of the occlusal plates as at present. Such a prop has been made by the Dental Manufacturing Company, and should be easily obtainable.

A short consideration of the correct hold of dental forceps may not be amiss. Some will have heard a statement that "the difference between a blacksmith and a dental surgeon lies in the way each holds his instrument, for a blacksmith holds his with thumb outside one handle and all his fingers outside the other, whereas the most successful dental extractor keeps his little finger in between the handles." It is my firm belief that a much finer control of the forceps is obtained in this way, though its acquisition may take a little practice, but, once obtained, it will frequently prevent the crushing of carious crowns of teeth, which otherwise crumble with uncontrolled sudden closure of the forcep blades.

When the operation is completed the throat pack should be removed, having first ascertained that no small portions of tartar, fragments of loose alveolus or other foreign body still remain in the buccal cavity. The prop should be retained until the patient has fully recovered from the anæsthetic state, for removal early in the recovery stage is liable to give rise to the impression that the extraction of the last tooth was felt, and earlier removal has no great advantage. Its retention tends to prevent swallowing and consequent passage of blood and mucus into the stomach; therefore it is wise to leave it until such time as the patient can voluntarily open the mouth a little more upon being asked to do so, and the prop automatically falls out.

It is extremely desirable that recovery should be gradual, and for this purpose any bright light used for the operation should be extinguished and strict silence maintained; the slower the return to consciousness the more pleasant it is.

As soon as sufficient recovery has taken place the patient should be instructed to sit forward, so that the fluid collection in the mouth can more easily be evacuated into a suitable receptacle, but again Mr. Fry's teaching that rinsing should be minimal would appear to be entirely correct. Surely the little blood that is present is required to form a clot to seal the sockets, and it is unwise to wash it away. One or two rinses, therefore, should be sufficient to remove any excess clot which has formed after separation of the blood from the socket, and continued rinsing is undesirable.

For extraction of mandibular teeth the lowest position of the dental chair is desirable, and for those from the right side of the mandible Mr. Fry's practice of standing upon a low stool or other means of elevation is of distinct help in allowing the operator to get well above and over the top of the site of operation, a most desirable position in which to be.

Finally, some consideration should be given to the question of collapse during the anæsthetic stage. Some surgeons and anæsthetists prefer to lift the patient out of the chair and lay him prone on the floor, so that any obstruction of the upper airways tends the more easily to fall out of the mouth by gravity; the majority, however, prefer to sweep a finger round the back of the mouth and throat to hook and pull forward any obstruction, and if no foreign body is present, to engage and pull outwards the epiglottis and root of the tongue. It should be fully realised that the finger should be introduced on one or other side of the mouth and not down the middle, as in the latter circumstances there is more danger of pushing further any obstruction present, whereas using the former method the finger tends to get behind and is able to hook around the object.

The back of the chair should be immediately lowered, the anæsthetist ensuring that the chin, tongue and epiglottis are maintained in a well forward position. It is extremely desirable that a pair of tongue forceps be attached and well withdrawn as soon as possible. At the direction of the anæsthetist the operator should then start artificial respiration by compressing smartly the

chest in the region of the lower ribs; sufficient time should be given to allow of the automatic expansion of the thorax with concurrent indrawing of fresh air, and the whole action then repeated at an approximate rate of 15 or 16 times to the minute until natural respiration re-starts. The mistake of too rapid repetition of the artificial respiratory cycle should be carefully avoided. Meanwhile a small stream of oxygen with carbon dioxide admixed in quantities of 3 per cent. up to 30 per cent. should be delivered close to the patient's mouth and nose, or, alternatively, pure CO_2 may be administered from a Sparklet Resuscitator or other container at a little distance from the air intakes, so that its great stimulant effect upon the respiratory centres may be utilised, leading secondarily to increased oxygen and air intake.

At certain teaching institutions the operator is instructed to grasp the knees, or legs just below the knees, and by flexing the hips to press the thighs well and reasonably forcibly into the abdominal wall, by so doing compressing the thorax by upward displacement of abdominal contents, and also presumably expressing blood into the general circulatory system from the abdominal reservoir.

As soon as sufficient recovery has taken place the head and trunk should be tilted forward over the thighs, and as soon as possible the patient removed to a recumbent posture upon a couch with head tilted well to one side. Fresh air and the other necessary aids to recovery may then be provided.

It would seem hardly necessary to stress as far as private practice is concerned the fact that the removal of a tooth for relief of an acute alveolar abscess is not the "be-all and end-all" of treatment, for it is equally important to ensure, besides removal of the cause and creation of some degree of drainage, that general treatment and instruction as to purging, diet, fluid intake, rest and fresh air, etc., are given. So frequently one has seen an extraction performed for a hospital patient with a greatly swollen face, approximating to a submaxillary cellulitis, and no instructions have been given or further arrangements made to follow up the patient to ensure that the condition of acute inflammation subsides. It is extremely doubtful whether syringing of the socket is desirable in the after-treatment of this condition, but this usually is the only treatment ordered by house officers in the Extraction Rooms.

At last the patient may be allowed to rest, preferably in a room set aside for the purpose, with adequate ventilation yet by no means cold, for the patient has probably perspired to a greater or less extent during the anæsthetic state, and is liable otherwise to be chilled. Stimulants may be administered if thought desirable, though tea, coffee and long drinks tend sometimes to produce nausea and vomiting. If taken, they should, of course, contain ample sugar if palatable. Probably the most suitable is a dose of an ounce of whisky or brandy with an equal quantity of *hot* water, provided that such is acceptable to the patient.

And, last of all, it should be quite definitely ascertained before the patient is allowed to proceed home that all hæmorrhage has ceased, that there is no cauliflower-like exuberance of clot over any socket which may be disturbed by movements of the tongue, and no strings of coagulated blood stretching in web fashion to points at a distance from the socket or sockets, for these latter conditions frequently give rise to recurrent bleeding of an intermediate character. Instruction invariably should be given to patient or companion that if anything untoward should occur, such as hæmorrhage of more than slight degree, information should be sent to the dental surgeon without delay, for it frequently occurs that the medical practitioner is called unnecessarily, whereas the former can usually deal with the complication quite capably, and the shorter the delay the better for all concerned.

As to mouth-washes, for reasons outlined above it would appear wise to advise the limitation of rinsing to times immediately after the partaking of nourishment for 24 hours after the operation, and thereafter as frequently as desirable, using *hot* solution, as the heat more than any antiseptic or other content exerts the greatest therapeutic action. Fancy prescriptions are suitable in many cases, but hot normal saline, made by dissolving a teaspoonful of salt in a tumblerful of hot water, and used as hot as may be with comfort, is probably equally efficacious, and obtainable by the poorest.

And so ends a collection of suggestions which, it is hoped, may be of help to others.

Guy's Hospital Gazette
(ESTABLISHED 1872)

A Journal of Hospital News, Medicine, Surgery and Dentistry

The Editor will, at all times, be glad to consider articles or sketches, provided that they are accompanied by the writer's name and address, not necessarily for publication. The payment that the GAZETTE can offer is merely nominal. Authors who desire reprints of their papers should make their own arrangements with the printers when they return their proofs. All contributions to be addressed to *The Editor*, who does not accept responsibility for the views expressed by contributors.

A Case of Congenital Dental Deficiency

A Casual Communication by H. C. Davis, Esq.

I AM bringing to your notice this evening a very rare condition which, though of little practical value, has considerable academic interest.

The case illustrates the correlation of growth which occurs between the various structures which are primarily of ectodermal origin.

The patient is a girl, 14 years old, who is well developed for her age and rather above the average intelligence. She has scarcely had a day's illness in her life, and there is no history of rickets or syphilis in her family.

It is interesting, therefore, to find that her dental equipment consists of 18 retained deciduous teeth and one erupted permanent tooth, all the other permanent teeth being congenitally absent, as revealed by X-ray examination.

The jaws themselves are well developed, despite the fact that when the mouth is fully closed there is still a space of about $\frac{1}{4}$-inch between the occlusal surfaces of the upper and lower teeth. In fact, apart from their Class III relationship, the jaws are those of a normal child of 14 years.

The deciduous teeth started to erupt at the abnormally early age of ten weeks after birth, and continued to erupt very slowly at intervals over a period of several years.

In the lower jaw the incisors and canines are simple, peg-shaped teeth, very spaced. The temporary molars are normal in appearance, but the right temporary molar was shed at about 11 years and has been replaced by a premolar with a well developed single root and conical crown. This is the sole erupted or unerupted member of the permanent dentition.

In the upper jaw the central incisors, though no doubt originally conical, show very marked attrition, while the roots appear to be largely absorbed.

The left lateral is missing, though I do not think it is congenitally absent. The canines again show marked attrition and the molars are again normal.

All the teeth are remarkably clean and free from caries, despite her miserably deficient masticatory apparatus.

Except for the upper and lower centrals the teeth are quite firmly attached.

With regard to other ectodermal structures, her nails were very slow in developing, though they are now comparatively normal. She had practically no hair until she was three, and such as it was she shed at five years and again at seven years. During this period she was dressed as, and looked exactly like, a boy. She now has a fairly presentable crop of hair, but it is coarse and dry, and she still has no eyebrows and only very meagre eyelashes.

Her eyes, lacrymal glands and sweat-glands are, on the other hand, quite normal, though the redness and dryness of her skin suggests a deficiency of sebaceous glands.

In the standard work on this subject—Cockaynes "Inherited Abnormalities of the Skin and its Appendages"—I am unable to find any condition exactly corresponding to this one. Except for the important fact that her sweat-glands are present, it would readily fall into the group of abnormalities which he calls the anhydrotic ectodermal dysplasias.

An excellent example of this condition was shown at the Clinical Meeting in March, and I also have records of a case recently under observation at King's College Hospital.

I have not been able to collect sufficient data to work out a family tree, but the following facts are significant :—

1. Her mother has eight of her permanent teeth congenitally absent, including the upper laterals.

2. Her brother, aged 18, has spacing of the upper incisors and peg-shaped upper laterals.

3. None of her maternal relatives wear dentures, and, with her mother, show marked immunity to caries.

4. Her maternal great-grandmother married a first cousin.

As regards treatment, the child is perfectly happy as she is, and rather shrinks from the idea of having two great rows of artificial teeth. In about three years' time she will probably think differently. The construction of dentures actually over the present teeth has been suggested. Any undercuts could be removed by stoning the teeth a little; retention would be good and excessive bulk of vulcanite avoided, and even a skeleton plate made in the upper.

Correspondence

"Diarrhœa"

To the Editor of the GAZETTE

SIR,—I notice that in the report of Dr. Douthwaite's clinical lecture on Diarrhœa no mention is made of the use of kaolin in the treatment of the acute diarrhœa of the various forms of food poisoning.

Living in a seaside town I have grand opportunities of seeing innumerable cases of this condition caused by ice cream (a good first), whelks, winkles, mussels, oysters, eels and sausages. In all these cases, including those in which vomiting is severe, a drachm of kaolin in about two ounces of water, administered every half-hour, works like a charm.

It is true that an astringent may be necessary to stop the diarrhœa completely, but the change from a desperately ill patient to one merely afflicted with diarrhœa is frequently most dramatic.

It is, of course, essential to keep a good stock of kaolin on hand to dole out when the chemists are shut, because, as Dr. Douthwaite points out, these cases have a nasty habit of occurring in the small hours.

Yours, etc.,

G. NESBITT WOOD.

45, Wellington Square, Hastings.

Reviews

Radiotherapy in the Diseases of Women. By MALCOLM DONALDSON, B.A., F.R.C.S. Published by Messrs. Hodder & Stoughton, Ltd. Pp. 131. *Price* 7*s.* 6*d.*

THE above book is divided into three sections. The opening one deals in a general way with the physics of radium, radon and X-rays, and their action on living tissues; it finishes with a brief description of the principles of radium application and a discussion of its dosage and the necessary filtration.

The second section deals in some detail with the use of radium in cancer of the uterus, and also quite briefly in cancer of the vagina and vulva. The various methods in use in different clinics are each described, and a few statistics are given in illustration of the results obtained. Quite rightly, statistics are not too greatly stressed.

Section three discusses the treatment of menorrhagia of benign origin.

This book, while stating nothing new, gives a useful summary of the present position of radium in gynæcology, useful in particular to the student up for his final examination.

Manipulative Treatment for the Medical Practitioner. By T. MARLIN, M.D. Published by Messrs. Edward Arnold & Co., Ltd., London. Pp. 133. *Price* 10*s.* 6*d.*

THERE is no doubt that the teaching of manipulative surgery has gained a permanent place in the medical curriculum, and an authentic work on the subject is indispensable. Dr. Marlin has studied the practice of the osteopaths and added this to an extensive physiotherapeutic experience. He rightly says that successful manipulation demands constant practice, and this is difficult for the average doctor; nevertheless, a perusal of his book gives a good idea of the treatment indicated. He makes a survey of principle and then passes on to a consideration of soft-tissue manipulation. Certain aspects of inhibitive pressure and the treatment of headache by suboccipital traction described on page 14 strike one as too exotic to be convincing. The more familiar skeletal manipulations are well described and profusely illustrated. An excellent book, which should stimulate inquiry into a much neglected subject.

Prizes for Short Clinical Papers by Students and Newly Qualified Practitioners, 1935

THE Council of the British Medical Association has decided to offer for award in June, 1935, prizes for short clinical papers by fourth and subsequent year medical students and newly qualified practitioners of not more than one year's standing (that is, from date of passing qualifying examination), under the heading, "Describe two cases, from your own personal

observations, illustrating the effects on the heart, immediate and remote, of acute rheumatic infection." For this purpose the medical schools of the British Empire have been grouped as follows :—

GROUP 1.—University of Aberdeen ; University of St. Andrew's.

GROUP 2.—The Medical Schools in Australia, Canada, India, Malta, New Zealand, and South Africa.

GROUP 3.—Queen's University of Belfast ; University of Dublin (Trinity College) ; National University of Ireland (University College, Cork ; University College, Dublin ; University College, Galway) ; Royal College of Surgeons in Ireland (Schools of Surgery).

GROUP 4.—University of Birmingham ; University of Bristol ; University of Wales.

GROUP 5.—The Medical Schools in Ceylon, Hong-Kong, and Malaya.

GROUP 6.—University of Durham ; University of Leeds ; University of Sheffield.

GROUP 7.—University of Edinburgh ; School of Medicine of the Royal Colleges, Edinburgh.

GROUP 8.—University of Glasgow ; Anderson College of Medicine ; Queen Margaret College (School of Medicine for Women) ; St. Mungo's College.

GROUP 9.—University of Liverpool ; Victoria University of Manchester.

GROUP 10.—London : Charing Cross Hospital Medical School ; King's College Hospital Medical School.

GROUP 11.—London : Guy's Hospital Medical School ; London Hospital Medical College.

GROUP 12.—London : London (Royal Free Hospital) School of Medicine for Women ; University College Hospital Medical School.

GROUP 13.—London : Middlesex Hospital Medical School ; St. Mary's Hospital Medical School.

GROUP 14.—London : St. Bartholomew's Hospital Medical College ; St. George's Hospital Medical School.

GROUP 15.—London : St. Thomas's Hospital Medical School ; Westminster Hospital Medical School.

For each group a prize, consisting of a certificate signed by the President of the Association, together with a cheque for £10, will be available. The clinical paper *must not exceed a total of* 3,500 *words* (equivalent to about two and a half pages of the *British Medical Journal*). The papers will be adjudicated upon by examiners appointed by the Council from among members of the Association not resident in the area of the group in question. If in the case of any group no clinical paper received is considered by the examiners to be deserving of a prize, no prize will be awarded in that group. Each paper must be plainly written or typed on foolscap paper (one side only), and reach the Medical Secretary, B.M.A. House, Tavistock Square, London, W.C.1, not later than Saturday, April 13th, 1935. Each paper must be signed by a pseudonym only, and be accompanied by a signed statement that it has been the *bona fide* work of the competitor, and in what capacity he or she comes within the definition (as above) of those eligible to compete, together with particulars of his or her full name, pseudonym, address, medical school and (if on Medical Register) month and year in which the examination qualifying for registration was passed.

(*Reprinted from the Supplement to the "British Medical Journal," May 12th,* 1934.)

Royal Medical Benevolent Fund

THE Royal Medical Benevolent Fund was established in 1836 and incorporated under the Companies Act in 1915. The Fund exists as a general Medical Charity, and it is the desire of the Committee to enlist the direct sympathy and support of every member of the profession in order that the object may be efficiently and adequately carried out.

Its object is to assist members of the medical profession, their wives, widows and children who are in poverty and distress. Help is given in the form of annual maintenance grants or in single grants to help over a particular difficulty or illness.

A number of Annuities are provided for such persons who are aged or disabled.

In order to make the grants the Fund relies on annual subscriptions and donations.

Subscriptions are now urgently needed. Cheques should be made payable to the Honorary Treasurer and sent to :—

The Royal Medical Benevolent Fund,
11, Chandos Street, Cavendish Square,
London, W.1.

Legacies are needed for the Annuity Department.

Sport

Hockey

THE Annual General Meeting and Annual Dinner were held on March 17th, at the Regimental Mess of the Inns of Court Regiment in Lincoln's Inn. The President, Dr. E. P. Poulton, took the Chair, and Mr. Bromley, one of the Vice-Presidents, was present.

Dr. Poulton was unanimously re-elected as President, as were also the Vice-Presidents.

The following officers were elected for the season 1934-35: Captain, A. R. Richmond; Vice-Captain, E. B. Rowe; Hon. Secretary and Treasurer, J. B. Franklin; Hon. Fixture Secretary, J. E. Elliott; Hon. Secretary, 2nd XI, H. W. R. Franklin; Hon. Secretary, 3rd XI, J. H. Smart; Hon. Secretary, 4th XI, — Wakeham.

The meeting was followed by the Dinner, at which the President again kindly took the Chair. After the toast of "The King" the President proposed the toast of the Club. In responding, Richmond said that, in spite of a record, of which the number of wins was not very large, he thought the teams had enjoyed the season, and he hoped that the great keenness shown at present would be rewarded next year.

The Dinner was followed by a "Hockey Film." This consisted of two parts: Part 1—The manufacture of the hockey stick from raw material; Part 2—The right and wrong way to carry out certain strokes; and general hints to players.

An enjoyable evening was spent by all.

Hospital Information, etc.

Pass List

SOCIETY OF APOTHECARIES OF LONDON.
FINAL EXAMINATION.

May, 1934.

Surgery.

P. E. Cresswell.

Medicine.

*P. C. Alexander *S. E. Roberts

Forensic Medicine.

*P. C. Alexander.

Midwifery.

*A. E. Ginn.

*Have now completed the examination.

Papers by Guy's Men

S. A. Leader. Nasal and oral respiratory air pressures; their effect upon the growth and health of dental structures; some experiments and conclusions. *Brit. Dent. Jour.*, 1934, lvi, 387.

Geoffrey Rake. Studies on meningococcus infection: vi. The carrier problem. *Jour. Exp. Med.*, 1934, lix, 553.

H. W. Barber. Nævus unius lateralis of the mouth, associated with multiple nævi of various types. *Proc. Roy. Soc. Med.*, 1934, xxvii, 807; Sect. Dermat., p. 43.

G. B. Dowling and R. T. Brain. Epidemic of obscure ætiology occurring in a coal mine in Kent. *Ibid.*, 813; Sect. Dermat., p. 49.

W. M. Mollison. Palato-pharyngo-laryngeal paralysis as a complication of thrombosis of the lateral sinus. *Ibid.*, 893; Sect. Otology, p. 45.

J. Vernon Braithwaite. The clinical features of pink disease. *Medical Press*, 1934, clxxxviii, 462.

C. S. Hallpike and A. F. Rawdon Smith. The function of the tensor tympani muscle. *Jour. Phys.*, 1934, lxxxi; (Proceedings, p. 25.)

John A. Ryle and R. L. Waterfield. Lobar pneumonia. *Clin. Jour.*, 1934, lxiii, 224.

Ronald E. Smith. Torsion of the testicle treated by non-operative manipulation. *Clin. Jour.*, 1934, lxiii, 250.

A. L. Spencer-Payne. Stomatitis. *Practitioner*, 1934, cxxxii, 683.

Appointment

Desmond Gure, Hon. Consulting Dental Surgeon and Dental Lecturer to the City of London Maternity Hospital.

Change of Address

J. C. C. Howe, "The Hollies," Flitwick, Bedfordshire.

Births

BARLOW.—On May 10th, 1934, at 27, Welbeck Street, to Phyllis, wife of Surgeon-Commander N. A. H. Barlow, R.N.—a daughter.

HEELY.—On June 3rd, 1934, at Chudleigh, Devon, to Nancye (née Morris), the wife of W. J. Heely, M.R.C.S., L.R.C.P.—a daughter.

Marriages

HUDSON—JENKINSON.—On May 18th, 1934, at Rock Ferry, Cheshire, Charlton Lyth Hudson, L.D.S., of 8, St. Mary's Street, Shrewsbury, to Irene Jenkinson, of Rock Ferry.

STEWARD—READING.—On June 2nd, 1934, at Holy Trinity Church, Marylebone, Graham Villiers Steward, L.R.C.P., M.R.C.S., second son of F. J. Steward, M.S., F.R.C.S., Consulting Surgeon, Guy's Hospital, and Mrs. Steward, of 62, Portland Court, W., to Margaret Edith, second daughter of Mr. and Mrs. P. G. Reading, of 12, Arran Road, Catford, S.E.6.

EDS. { G. L. B. T. / D. P. K.

GUY'S HOSPITAL GAZETTE

A Journal of Medicine, Surgery, Dentistry and Hospital News.

PUBLISHED FORTNIGHTLY.

Volume XLVIII *23rd June* 1934 *Number* 1198

PASSIM

OF recent years the General Medical Council has been the particular butt of the daily press, who apparently regard it as an autocratic body whose main aims are to humiliate the practitioner and to prevent the spread of recent advances in medical knowledge. This is so far from the truth, and the composition of the General Medical Council being as it is, it is surprising that so many of the public are sufficiently gullible to accept it. That they do is clear to anyone who mixes outside the Hospital at all, and we can only assume that they must be hopelessly confused as regards the main *raison d'etre* of the numerous medical bodies now existant. Whatever the cause, it is very disheartening to find how much sympathy is accorded to practitioners whose behaviour is contrary to the accepted standards of medical ethics.

At the moment an evening paper is waging a campaign against the General Medical Council by giving publicity in its editorial columns to one doctor every evening. The doctors so lauded must find these lay praises extremely unwelcome, and we feel that the action of this paper is an unnecessary and lamentable effort at peeking the body governing medical practice in this country.

▭

ON Thursday, the 28th of June, the Guy's Ladies' Association will hold a fête in the grounds of the Hospital. These shows are always a tremendous success, and this year the Ladies' Association with their usual progressiveness and originality have included a number of new attractions. On this occasion there will be lions and tigers and a trained elephant kindly lent by the Chessington Zoo. We hope that this is not a prelude to further invasions from the Far East on the Hospital

Other activities include a market, numerous side-shows and dancing in the Nurses' Home. Throughout the afternoon the wards of the Hospital will be open to visitors.

Such occasions as these not only provide handsomely to the maintenance of the beds, but give an excellent opportunity for the general public to look over the wards and theatres.

It is to be hoped that the enthusiasm of the Ladies' Association will again be rewarded with great success.

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THE Derby Day collection amounted to £974 10*s*. This is an excellent result, and those concerned deserve every congratulation. Over 400 members of the Medical, Dental and Massage Schools helped, and collecting went on throughout the whole day in every part of the City.

The enthusiasm of the collectors was so great that one of their number carried his box to the gates of another hospital. He had a warm reception and escaped with difficulty and some loss of clothing. A similar enthusiasm, differently applied, resulted in others filling their boxes with pleasing rapidity.

Derby Day is the only day of the year on which collecting for the Hospital is allowed outside our area, and it is gratifying to see such good use put to it.

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THE United Hospitals' Swimming Club is holding the annual Gala at Marshall Street again this year. The details of the Gala will be found under "Swimming News," and we would only like to remind our readers that seats are free and can be obtained on application. The number of seats is, of course, limited, so that early application is advisable.

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WE would like to take the opportunity of expressing our regret at the departure of Gavin Thurston from the Hospital. He has been Senior Editor for the last four months, and his sound judgment and good humour will be sorely missed in the management of *Gazette* affairs. We wish him every success in his new job as Resident Medical Officer at the Pembury Hospital.

P. W. Clarkson has consented to fill the post of sub-editor which becomes vacant.

Obituary

MOLLIE H. H. EVERETT

MOLLIE H. H. EVERETT died in Bright Annexe on May 27th, 1934, from general septicæmia after only a few days' illness, aged 20 years.

She entered the Preliminary Training School, Guy's Hospital, in November, 1933, completed the four months' preliminary course and passed into the wards of the hospital, where she worked from February to May.

She was thoroughly interested in her work, and her attractive, cheerful manner made her popular with patients and fellow-workers in the Preliminary School and wards.

Before starting training at Guy's she had been a Probationer at St. Monica's Home of Rest, Bristol, for one year, and afterwards took a Domestic Science course at Leicester University College.

We should like to offer our sincere sympathy to Mr. and Mrs. Everett on the loss of their only daughter.

On the Differential Diagnosis between the Fourth Disease and Scarlet Fever

A Paper read before the West Herts. Medical Society at Watford, by Dr. B. Campbell Gowan, in 1901

GENTLEMEN,—Let me begin by thanking your genial and energetic secretary, Dr. Smith, for giving me this opportunity of placing my views upon this important subject before your Society and of submitting them to your comment and criticism. I will endeavour to reduce my statements within the narrowest compass possible.

There was a time, not so very long ago, when typhus and typhoid were confounded—the very name " typhoid " suggests this confusion. Sauvages was probably the first to differentiate them. Further, I believe that at the commencement of the last century it was no uncommon thing for scarlet fever and measles to be looked upon as manifestations of one and the same disease. At the end of the century we knew better, but other and interesting problems had cropped up and another disease, with a dual manifestation, had appeared upon the scene. I allude to German measles or Rotheln, the happy possessor of many synonyms, viz.: Rubella, Rubeola and Epidemic Rose Rash.

How recent this addition to our nosology is you will appreciate if you consult the first edition of the " Nomenclature of Diseases," published by the Royal College of Physicians in 1869. In this you will *not* find any allusion to rotheln, German measles, rubella, rubeola or to epidemic rose rash. Rose rash itself is included under the head of " Diseases of the Cutaneous System " !

In the second edition of the above work, published in 1885, reference is made, in the preface, to the " addition " of " Epidemic Rose Rash," and on page 5 it is given with its synonyms: rotheln, German measles, rubeola and rubella.

In the third edition, issued in 1896, rubella takes the first place, with rotheln, German measles and epidemic rose rash as synonyms.

It certainly seems that there is here some confusion of expression, if not of thought. But the confusion does not end here, for we were taught (if I may be allowed to apply the term to the scrappy information about the exanthemata that could be " picked up " by the student of 20 years ago) that German measles not only possessed many synonyms, but also had the power of varying its manifestations, appearing sometimes in a form resembling that of measles, sometimes as a rash closely resembling that of scarlatina, and some authors have even gone so far as to state that the rash " varies considerably while it is out, being at first somewhat like measles and afterwards changing so as to resemble (somewhat) that of scarlet fever."

Here indeed is " confusion worse confounded."

Addressing, as I am, a society of practitioners, so many of whom are medical officers of schools, upon whose knowledge, judgment and discretion the welfare of hundreds of young lives depends, I need hardly say, and I am sure you will agree with me, that this confusion is, or rather was, deplorable. I say " was," because since 1900 many of us have begun to see sunlight through the fog.

On the 14th of July, 1900, Dr. Clement Dukes, of Rugby, published in the columns of the *Lancet* his able and memorable paper " On the Confusion

of two Different Diseases under the name of Rubella (Rose Rash)." In this we read that he first suspected the existence of two separate diseases passing under the same name in 1892. In 1894 he published his suspicions, but it was not until after the outbreak at Rugby School in the spring of 1900 that he gave to the profession the fruit of many years of careful thought and patient observation. During the long period of his tenure of the post of medical officer to Rugby School his opportunities for observation and study of the diseases of childhood, and the experience he has gained from them, were probably unique. I wish here to express my indebtedness to him for kindly providing me with a reprint of his paper, which, unfortunately for me, had appeared when I was away for my holiday, and was carefully eschewing all things medical, even the *Lancet*! It was not until some weeks after the occurrence of the earlier cases in the outbreak which I wish to bring to your notice that I heard of Dr. Dukes's paper My object in mentioning this is to show that it was without bias of any kind, or preconception, that I approached the solution of the difficult problem which faced me in the beginning of February, 1901.

Should the question be asked, and it has been, "Are you not making a very big mountain out of a very small molehill?" I should emphatically reply, "No!" and I will quote a pregnant passage in Dr. Dukes's paper in support of my view. He says, "By many members of the profession the diseases hitherto classed under the term 'rubella' are considered to be of a very trivial nature. But when one frequently hears that certain children have had three attacks of measles (that is, English measles), German measles and the disease I am about to describe—none of which affords protection against the remainder, and where one at least of them is likely to be confounded with scarlet fever, the question assumes an aspect of grave importance, both to the young and to the school where an important portion of their lives is spent."

Later on he points out that the isolation period of 21 days for rubella differs very materially from that of 42 to 56 days for scarlet fever. In further support of my view that the differential diagnosis between scarlet fever and rubella may be a matter of gravest importance, I may mention a case which has left a sad impression on my memory. Several years ago, while taking duty for one of my partners, a little girl, between eight and nine years of age, was admitted into a scarlet fever home under my care, with the usual certificate of three week's illness. Within a few days she developed a typical attack of scarlet fever, acute nephritis supervened, followed by suppression of urine, coma and death. I could quote many other cases of so-called second attacks in the same and in other institutions.

To these cases the objection will at once be raised that they were second attacks, due to contact with the disease germs in a concentrated form, and not to simple infection of a patient desquamating or otherwise—after an attack of rubella. Here again I beg emphatically to differ, for after 17 years' experience of general practice (14 years of these as Medical Officer of Health) I have never yet in a school, house or cottage seen a second attack of scarlet fever occurring during convalescence from a first attack. Now as far as the question of the concentration of the poison is concerned, it can hardly be seriously contended that the clean, carpetless, roomy, airy and often disinfected wards of fever hospitals and homes contain the virus in a more concentrated or potent form than the fusty, small, two- or three-roomed cottages of the working classes in many of which I have seen four and five cases at a time, but never one second attack.

It may, I think, be now taken for granted that there is a disease, which in many of its features so closely resembles scarlet fever that even the most acute and careful observers may be, have been, and will be led to err in its diagnosis. And this disease Dr. Dukes has tentatively named the "Fourth Disease."

Probably none of his varied experiences is more disconcerting to the medical officer of a school than that in which he finds himself face to face with an exanthem as to the precise nature of which he entertains the most profound doubt.

On the one hand he is called upon to give an opinion and to act upon it promptly, while on the other he feels that he cannot, honestly, dogmatise, no matter how loth he may be to admit his fallibility.

Yet it must happen to many, in the course of their experience, to find themselves placed on the horns of this awkward dilemma.

The first of my series of 19 cases sickened on the 2nd of February, 1901. At the outset I was struck by the marked disproportion between the intensity of the rash and the temperature recorded. This fact, coupled with the absence of any signs of peeling in the earlier cases and the long period between the first and second cases, contact between whom had not taken place for 18 days, suggested to me that the disease was not scarlet fever, in spite of the striking resemblance which the rash bore to that commonly supposed to be peculiar to this disease. There was a slight injection of the soft palate, and the pillars of the fauces, but no

enlargement of the glands at the angle of the jaw in either case.

The third case (an adult) was taken ill with influenza on the 25th with a temperature of 103.2° and marked photophobia, followed by profuse perspiration, lassitude and prostration. On the 29th he developed the most blazing rash I ever saw, chiefly on the trunk. His temperature had, however, fallen to 100.4, and I was inclined to think that his rash was due to sudamina aggravated by the thick flannel garments and sweater which he was wearing. This illusion was, however, speedily dispelled.

He was living out of the school and had not left his room since the afternoon of the 24th. Moreover, he had not been in contact with either of the two first cases for many days prior to this date, as they had, of course, been carefully isolated. The severity of his rash notwithstanding, peeling was limited to a few hang-nails. No. 4 sickened on the 1st of March, and he had not been in contact with No. 2 since the 21st of February, an interval of eight days.

Nos. 5, 6 and 7 were discovered later on in the same day, while No. 8 was discovered at the daily inspection on March 2nd. Between Nos. 8 and 9 there was a clear interval of 11 days, the latter showing the rash on March 13th.

From then until the end of the term occurred a series of irregular cases (one on the 17th, one on the 23rd, three on the 24th, one on the 26th and one on the 27th.) This irregularity may have been due either (*a*) to infection from an undetected case (not very probable, owing to the stringent precautions taken), or (*b*) to the uncertain duration of the period of incubation which seems to vary between eight and 20 days.

The school broke up on the 2nd and 3rd of April, and only three cases occurred during the vacation. The first of these developed the rash on the 8th April, the diagnosis made by his doctor, a well-known practitioner on the south coast, being German measles.

No. 18 was stated to be suffering from scarlet fever, which developed on the 16th April, or 13 days after leaving the school. An interesting point about this case is that the same medical man who certified his illness to be scarlet fever had only 18 months previously certified him to be suffering from the same disease. On this principle we must paraphrase the old adage thus, " Most things which glitter are gold," and all red rashes are scarlatina !

The 19th case was under my care, and he developed the rash on the day of his return home from the sea-side just 20 days after his last possible exposure to the common source of infection. He, too, had some years previously gone through an attack of scarlet fever, certified by his doctor and the local Medical Officer of Health.

Nos. 14 and 15 had also definite histories of having already had scarlet fever.

Nos. 2, 5 and 9 had previously had German measles.

Now Cullen's law, aptly quoted by Dr. Dukes in his paper, " that one attack of an eruptive fever entails immunity from a second attack in the same individual during childhood," may be accepted as an axiom, and I do not think that many will be found to question it. On it the very theory of immunity is based. It therefore follows that the disease could not be scarlet fever, since four of the 19 cases, or 21 per cent., had already had that disease.

If also follows that it could not be German measles, for certainly three of the 19 cases, and probably more, had already had German measles.

Since, then, it was not English measles, nor German measles, nor scarlet fever, it could only be that form of so-called " rubella " which Dr. Dukes considers, and I think rightly considers, to be a distinct disease, and which for want of a better name he has described as " the Fourth Disease."

I may here mention that none of the matrons, nurses or domestics who were brought into contact with these cases contracted the disease. Towards the end of the holidays a footman, who had attended a public dance in a town in which scarlet fever was very prevalent, was taken seriously ill on his return a day or two later, and, the next day, developed a brilliant rash. But he had, in marked contrast to the " Fourth Disease " cases, a very high temperature (105.4°), a very dry skin and severe angina. Also in marked contrast to these cases he felt, and was, exceedingly ill. His case was at once diagnosed as one of scarlet fever, and he was removed to an isolation hospital.

For a minutely detailed account of the symptoms and course of the Fourth Disease I must refer you to Dr. Dukes's paper, but I will briefly put before you the salient features of the disease as they appeared to me.

1. There was rarely any vomiting, but occasionally a single evacuation of its contents by the stomach.

2. The boys did not feel ill, and often objected to being put to bed for " nothing."

3. In every case the rash was the initial symptom discovered, though after the first cases a most careful watch was kept for any symptom of illness. The rash, when marked, was of a most vivid hue, brick-red like that of scarlet fever, but with a distinct tendency towards the more purple hue

of measles. It was not blotchy. When slight, it was of a pale rose colour, and occasionally papular. It began on the upper part of the chest, rarely affecting the neck and was still more rarely seen on the face.

Circum-oral pallor was only observed in one case (No. 19), who had already had scarlet fever and whose temperature did not rise above normal. The rash rapidly involved the whole trunk, and then spread to the limbs. It was very persistent; in one case it was discernable for 12 days.

5. The skin, though sometimes hot to the touch, was invariably moist, often sweating; this I think is a most important symptom.

6. The tongue, though furred, cleaned without peeling and very slowly. The throat was injected, the velum palati red and finely granular in appearance. The faucial pillars were more or less swollen, but dysphagia was rarely complained of.

One case (No. 15) developed a tonsillar abscess on the eighth day. (He had already had scarlet fever and his maximum temperature was 101.8°, on the day on which the abscess broke.)

7. The pulse rate was but slightly affected, except in the case of No. 7, who was the subject of cardiac disease with marked dilatation of the left ventricle.

8. No trace of albumen was detected in any of the many specimens of urine tested.

9. The superficial glands of the body were usually enlarged from the outset, often becoming tender to the touch; but I do not now attach so much importance to this symptom since I find that this enlargement of the glands—of the groin and axilla especially, can be detected in almost every case of scarlet fever.

10. Desquamation, contrary to one's experience in scarlet fever, bore no relation to the intensity of the rash. It was often marked and complete in mild cases, and absent or slight in the more severe ones. In character it varied from mere "powder" to large "flakes," mostly the former.

11. The temperature was one of the most interesting features of the disease. It never in any of my cases reached 102°, and was often no higher than 99.2° to 99.8°. It seldom bore any

LIST OF CASES OF THE "FOURTH DISEASE," 1901

No.	Degree of Rash	Maximum Temperature	Previous Exanthema	Date, 1901	REMARKS
1	Marked	101.0	—	Feb. 2nd	Cayenne pepper rash on body; did not peel.
2	Marked	100.2	German measles	21st	Ditto ditto
3	Very marked	100.4 (103	with influenza)	29th	Had typical influenza on 25th; did not peel—a few hang-nails.
4	Very slight	99.8	—	Mar. 1st	Peeled freely for six weeks. Max. temp., 8th day.
5	Marked	99.2	German measles	1st	No peeling. Brother to Nos. 1 and 2.
6	Slight	99.4	—	1st	First case to peel, small scales, rash very pale and papular.
7	Moderate	101.0	—	1st	Desquamation, complete.
8	Marked	99.2	—	2nd	Slight, "Brawny" desquamation. Max. temp., 7th day.
9	Marked	100.4	German measles	13th	Slight, "Brawny" desquamation, body only.
10	Marked	100.8	—	17th	Slight, "Brawny" desquamation, body only. Max. temp., 5th day.
11	Slight	98.4	—	23rd	Powdery desquamation, body only.
12	Marked	100.6	—	24th	Slight Desquamation, patchy.
13	Marked	100.2	—	24th	No desquamation.
14	Marked	100.0	Scarlet fever	24th	Very slight desquamation.
15	Marked	101.8	Scarlet fever	26th	Very slight desquamation Max. temp., 8th day; tonsillar abscess.
16	Marked	99.6	—	27th	No desquamation up to April 3rd; went home.
17	Moderate	100.0	—	April 8th	Said by own doctor to have German measles.
18	Unknown	—	Scarlet fever	16th	Had scarlet fever badly 18 months ago. Left school 2nd April.
19	Slight	98.4	Scarlet fever	21st	Marked circum-oral pallor. No desquamation.

relation to the degree of the eruption, a most blazing rash which, in scarlet fever, would be accompanied by a temperature of 103° to 104° being often associated with one of 99° to 100°.

Again, the highest range of the temperature was sometimes not reached until the 5th, 7th or 8th days. This is in marked contrast to the variations of the temperature in scarlet fever—and, I must add, does not agree with Dr. Dukes's experience, since he found that the temperature usually fell to normal on the third or fourth day.

12. There was an evident amount of suffusion of the conjunctivæ, in some cases enough to warrant the suspicion of influenza; but in only one case was there any photophobia, and that preceded the rash by four days and was due to influenza (No. 3).

13. Of constitutional disturbance there was none.

The respiration was not affected, and there was neither cough nor any sign of irritation of the air-passages.

The bowels required but slight attention, and the appetite was, more often than not, unimpaired.

Sleep was quiet, and free from that wandering restlessness so common in children suffering from scarlet fever and measles.

14. Convalescence was uneventful and there were no sequelæ.

15. Period of isolation after attack not more than 21 days, peeling notwithstanding.

This, Gentlemen, is an outline sketch of the series of 19 consecutive cases of the Fourth Disease which it fell to my lot to have to diagnose and treat.

I admit frankly that if these cases had occurred scattered amongst the outside public, and not in a well appointed school where every facility was at hand for the purposes of isolation and observation, the difficulty of diagnosis would have been enormously increased.

If, in connection with this group of cases, you will read Dr. Dukes's elaborate monograph, I believe that you will agree that rubella or German measles has not two separate manifestations, but that the two most distinct eruptions which have, until recently, been held to be alternative evidences of its existence are really the distinctive expressions of two separate diseases. That one of these eruptions should so closely resemble that of scarlet fever is, in my opinion, the strongest possible argument in favour of an early recognition of this fact in order that we may as far as possible avoid the serious consequences which an error in diagnosis may entail.

How serious these consequences may be I think I have fully demonstrated.

The Diagnosis and Treatment of Staphylococcal Infection of Bone

TREASURER'S PRIZE ESSAY

By R. S. Ellis-Brown, Esq.

INTRODUCTION

EVERY bone consists essentially of threeparts —periosteum, hard osteoid tissue and soft parts, which include the contents of the medullary cavity, cancellous tissue and Haversian canals. Infection with the staphylococcus occurs primarily in the periosteum and the soft parts. The general and local symptoms of inflammation produced as the result of this infection are to a great extent due to the character and distribution of the osteoid tissue. The rigidity of the tissues in which the inflammation exists results in inflammatory exudate and toxins accumulating under increasing tension, the latter in its turn causing extensive thrombosis, depriving the bone of its blood supply; so that one early local result is bony necrosis. Bone must be looked upon as a whole, because infection of one tissue very soon leads either to infection, inflammatory reaction or necrosis of the other tissues. Thus all infections of bone with the staphylococcus are included under the title "Inflammation of Bone." Under this heading are included periostitis, osteitis and osteomyelitis. Acute periostitis rarely occurs without some degree of accompanying osteomyelitis. Para-epiphysitis is the precursor of the combined acute inflammation of periosteum, bone and medulla of acute osteomyelitis. It is proposed in this paper to divide inflammation of bone into acute, subacute and chronic inflammations, according to the virulence and kind of the staphylococcus and the reaction on the part of the host.

ACUTE INFLAMMATION OF BONE

Acute Periosteo-Myelitis

Staphylococcus aureus is the most commonly infecting organism in acute periostitis and osteomyelitis. A small percentage are caused by the

staphylococcus albus. The symptoms in infection with the latter organism are less severe—the disease is more localised, less likely to suppurate, signs of toxæmia are less and the disease is less likely to run a fatal course. In 200 consecutive cases Frazer found staphylococcus aureus in 61 per cent., staphylococcus albus in 3 per cent. and staphylococcus citreus in no case. Infection of a long bone in a child will be described first.

Diagnosis.—In considering the personal history of such a case, boys are attacked six times as frequently as girls. The child has often suffered from a previous debilitating illness, especially influenza, pneumonia, scarlet fever or furunculosis. The most common age period is 8-12 years. The history given is that the child, perhaps a day after a slight twist of the leg or a blow which raised a tender lump, became ill and in the course of a day became hot, developed a headache, lost his appetite, did not open his bowels, passed a little high-coloured urine and stayed in bed. An increasingly severe throbbing continuous pain at the end of the shaft of the long bone twisted, or over the tender lump on the surface of the bone, became apparent during this time, rendering movement painful. In severe pyæmic cases, at first there is pain in several bones near their articular ends, and bone may have pleuritic pain, so that a diagnosis of acute rheumatism may be made, leading to disaster. The signs and symptoms, however, soon become predominant in one bone, and the diagnosis is established by observing the general condition of severe toxæmia and that the most tender spot is situated outside the joint.

The attitude of the child can be diagnostic. As the surgeon approaches the bed or couch, the child anxiously and apprehensively watches every movement, and a passing touch of the bed or even gentle handling of the limb produces most extreme agony and the child cries out. The limb, it is seen, is uncovered over its most tender portion, is laid in the position of complete muscular relaxation, and will not suffer to be touched by anything. On looking at the child, his cheeks are flushed, an expression of pain covers his features, his skin is hot and dry, he lies limp and immobile. The only indication of activity is seen in the sunken, bright, wandering, watchful eyes, which peer from under eyelids which would fain droop.

The child is extremely ill, in great pain and in a severe state of toxæmia. His temperature is between 103° and 105°, his pulse is rapid and weak between 100 and 170. The soft parts, including the skin, overlying the area of bone affected become red, œdematous and pit on pressure, but these signs should not be expected or waited for. The disease is advanced when they are present. The swelling and redness will spread as the osteomyelitis spreads. Comparing both limbs, an important physical sign is the presence of a cylindrical swelling of the infected part, obliterating the normal contour. On palpation, the bone feels enlarged near the epiphysial end and is extremely tender over this area, and percussion at the other end of the shaft may also reveal tenderness. Pressure applied at a distance along the bone at first may cause no disturbance, but, if continued, will suddenly cause severe pain. The neighbouring joint in early cases allows free passive movement without pain, but soon it is apt to show tenderness and swelling, although no pus is present in the serum filling the joint cavity. The signs may seem to indicate disease of the joint to the exclusion of the infected bone, the painful, swollen, tender joint suggesting acute rheumatism. All apparent cases of monarticular rheumatism of a large joint (especially of the shoulder) are probably acute osteo-myelitis of one of the bones forming the joint, and should be treated as such, unless the general and local signs are slight and the heart shows evidence of an acute carditis.

In cases in which the tracking pus has entered the joint-cavity, setting up an acute suppurative arthritis, the patient is profoundly toxæmic and often delirious. Examination of the joint reveals a red, hot, very tender, swollen joint, placed in the position of rest, and it cannot be moved without causing severe pain. If the signs are less severe and doubt exists, aspiration may be performed under strict asepsis to establish the diagnosis. In young children, the site of infection is rarely the ossific nucleus of the epiphysis. The pus bursts rapidly into the joint cavity, and in diagnosing this condition it must be remembered that septic arthritis supervenes early. Indeed, when the case is first seen, a septic arthritis may be present. On examination, the joint, whether infected or not, is always swollen and very tender. The baby is very ill and toxæmic. Amputation may be the only means of saving life.

While still under observation a temporary amelioration of the general symptoms may occur and, on re-examining the bone, an oval swelling representing pus which has escaped from inside the bone into the subperiosteal space will be found. This may not be found if much soft tissue covers the bone, but the apparent improvement should not lead to delay in treatment.

Differential Diagnosis.—Erysipelas, cellulitis and erythema nodosum are recognised in that the local signs are often away from the bone ends, the lesions are well circumscribed, the joints can be moved

passively without pain and the signs of toxæmia are much less severe than would be expected if pus were present under tension beneath the inflamed area. Periosteal sarcoma reveals a localised, tender swelling with a definite edge over the end of a bone of a young person, but it is of insidious onset without a remittent pyrexia of between 102° and 105°, and evidence of toxæmia is slight. An X-ray examination may be made in a doubtful case. Acute osteomyelitis shows no change from the normal appearance during the first week. But after this, some rarefaction and confusion in the trabecular arrangement of the metaphysis (para-epiphysis or juxta-epiphysial line) is seen. Later, evidence of osteoporosis of the shaft and laying down of the involucrum is seen. Scurvy: A subperiosteal hæmatoma in infants causes a pseudo-paralysis due to pain and tenderness. The bone feels thickened, there is œdema of the soft tissues, with a tense, shiny skin. But there is no high temperature, nor evidence of intense toxæmia, and examination of the gums confirms the diagnosis. Typhoid fever and acute meningitis: The signs of toxæmia and septicæmia may be so severe, especially dulling of the senses, as to overshadow the effects of the local lesion, so that it is missed and a diagnosis of one of the above diseases entertained. Indeed, the patient, when seen, may be in a state of delirium with hyperpyrexia or, in exceptional cases, with only a slightly elevated temperature. Such cases very soon pass into coma and die. The pulse-temperature ratio is of value in diagnosis; in typhoid fever the pulse is slow, whereas in acute osteomyelitis it is fast, compared with the high temperature. If difficulty arises in diagnosis, an immediate white-cell count will reveal between 25,000 and 30,000 cells per c.mm. in osteomyelitis, whereas in typhoid fever there is a leucopenia. Acute meningitis is ruled out by the lack of physical signs pointing to such a disease—no restlessness, vomiting, neck-rigidity, Kernig's sign or photophobia. Acute osteomyelitis of bones deeply placed beneath strong fasciæ present local signs difficult to interpret, *e.g.*, of vertebral column, and of upper end of femur. Toxæmic symptoms may be so great and local signs concealed that severe typhoid fever is again suspected.

Differentiation from acute periosteomyelitis caused by other organisms is made as follows:—In typhoid osteomyelitis the patient is not so acutely ill, making one suspect staphylococcus albus infection. General symptoms are slight, and at the seat of infection some tenderness and swelling are present, which have taken several days to develop. A previous history of typhoid fever will be obtained; indeed, the patient may be convalescing from that disease. In pneumococcal osteomyelitis, a still longer history of local tenderness is present, general and local signs are slight and a previous recent history of bronchopneumonia, lobar pneumonia, or empyema can be obtained.

In every case the cardio-muscular and respiratory systems must be examined, not only to exclude the presence of pyæmic manifestations, but also to exclude other diseases.

Treatment, Immediate.—Free drainage of the pus and toxins must be established as soon as the diagnosis has been made. Half an hour before operation 1/100th grain atropine is given hypodermically. The patient is anæsthetised with ether. At operation, the overlying soft parts and periosteum must be freely incised, the latter elevated, the bone exposed and the metaphysial region opened. The metaphysis should be opened into with a drill, a sharp gouge or a trephine; in most cases several moderately large perforations should be made down to the pus. If pus is present under the periosteum in large quantities, as in acute periostitis with surface involvement of the bone, incision of the periosteum will suffice, but if there is doubt as to the free exit of pus, the bone must be opened and the pus let out. Sequestrectomy has to be performed later. As the average case does not reach operation until thrombosis has occurred in the venous spaces, hammering or rough handling must be avoided on account of the danger of pyæmia. The suppurating marrow may be gently picked out with forceps; it appears grey, does not bleed, and oil drops are present in the pus. The bone cavity is then well washed out with flavine (1 in 1,000) and freely drained by leaving the parts open and lightly packed with gauze soaked in paraffin and flavine, under which a set of Carrell's tubes are placed in position for future irrigation if doubt exists as to the efficient removal of infected material. In the case of infection of a long bone of a limb, a Thomas's splint is then applied. The gauze is removed under nitrous oxide anæsthesia and another dressing applied 36 hours later, irrigation with warm Dakin's solution having been performed every four hours until then. This method of treatment recognises that gentle handling is of great importance, and, although the patient's stay in hospital may be several months, the mortality is low compared with the more drastic technique of freely removing compact bone over one-third of the circumference of the bone and proceeding to a depth where healthy bleeding marrow is present.

The method of treatment introduced by Winnett Orr of recent years is fast replacing the above

method. The outline as described by Orr is as follows: 1. Immobilise the part at once in the best possible position on the operating table in such a manner that no muscle spasm or contracture can occur. The inflamed parts are not to be moved or manipulated during or following the operation. 2. Do a thorough drainage operation if necessary. 3. Pack the entire wound open with sterile vaseline gauze, using no sutures or drainage tubes, which act as mechanical irritants. 4. Apply a well-fitting plaster-of-Paris cast. 5. Do not disturb the cast, wound, dressings or injured part, except for definite complications.

The details of the operation are described as follows: Make an incision or opening that will thoroughly uncover (saucerise) the infected area. Remove foreign material and dead or dying tissue as much as possible. Do not curette or damage healing and protective portions of the wound cavity. No attempt is to be made to remove all the diseased or infected tissue. Do not remove bony or soft parts that may contribute to repair. Wipe out with iodine and alcohol just as the skin was prepared, in order to give a clean field for the dressing. Fill the cavity with vaseline gauze, packing from the depth to the surface of the wound. Pack gently but firmly. Use no chemical as a dressing at any time. Do not suture or cover any infected area with flaps of muscle, fascia or skin. Cover with a dry, sterile, absorbent pad to take up drainage at the edges of the vaseline pack. Apply a plaster-of-Paris cast, which must not be fenestrated. Moleskin adhesive straps or skeletal fixation devices if used are to be included in the cast, and will ensure fixed traction and comfort for the patient. Secondary dressings, when done, should be done in the operating theatre aseptically. The injured parts are not to be moved, nor the wound surface damaged. Do not hesitate to employ anæsthetics for secondary suture. Make late dressings as infrequent as early ones.

The special points in favour of the Orr method of treatment are the lowered mortality rate, the smoothness of convalescence, the absence of complications, of contracture, of deformities, of frequent dressings and the expense entailed in their use. Usually about three dressings are required at intervals of three to eight weeks, when the plaster is renewed.

It is generally possible to avoid operative damage to the epiphysial lines, but in all cases it is wise to warn the parents of the possibility of defective or excessive growth in length of the limb. Alteration in the rate of growth is especially seen in the case of the knee, shoulder and wrist, at which joints growth in length of the limb normally takes place. In those cases in which the infection is seen to have spread to the epiphysis, its interior must be opened up by a gouge just sufficiently to allow drainage; 10 c.c. of blood may be withdrawn at operation for culture to establish the evidence of a co-existent septicæmia.

The accompanying serous effusion into the neighbouring joint should be left alone. If, on aspiration, a little pus is present in the fluid, repeated aspiration may lead to complete resolution. If, however, it is frankly purulent, free drainage must be established. The commonest joint to become infected is the knee joint, in which case an incision is made along a line anterior to the biceps femoris tendon thoroughly laying open the joint cavity, or two incisions, one on either side of the patella, are made establishing free drainage. In about 50 per cent. of cass of suppurative arthritis of the knee joint, infection has spread from an acute inflammation of one of the neighbouring bones. Early operative evacuation of pus from the bone is very important in the prevention of a septic arthritis. The limb must then be put up in extension in a Thomas's splint, combined with Orr's method of treatment or not, so that the joint surfaces are kept apart, allowing the cartilage to receive adequate nutrition from synovial fluid and lymph. The joint should only be washed out at operation; this must be done gently, because the inflamed, swollen synovia with its bactericidal and nutritional powers is easily washed away and infection may spread to areas at the time free from it. Incision is always followed by a fall in temperature and a gradual improvement. It will be about three months before the joint and limb can be put in plaster and the patient allowed up, and during this time sequestrectomy will have been performed as to be described below. The plaster is kept on for three months, after which courses of massage are given to obtain as much mobility as possible.

The toxæmia is treated by administering glucose-saline intravenously or per rectum, along with as much fluid as possible by mouth. If septicæmia exists as evidenced by a persistent intermittent temperature between 98° and 105°, rapid pulse, toxæmia and the patient retrogressing with a positive blood culture, anti-staphylococcal serum intramuscularly, followed 24 hours later by whole blood intravenously, in small amounts up to 8 ounces are given, and repeated if necessary.

Amputation may be demanded when, in spite of free drainage, pyæmic manifestations continue. The patient becomes progressively worse, running a high temperature with rigors, weak, rapid pulse, and delirium. Abscesses develop in other parts, including internal organs and endo- or pericarditis appears. The wound is grey and per-

sistently deficient in signs of reaction. The prognosis is bad. If, as often occurs, the amputation flaps have to be made near infected tissues, they should be packed or stitched back until, after frequent irrigations using Carrell-Dakin tubes and after frequent antiseptic dressings, the flaps are clean and can be co-opted by secondary suture.

In a case of acute periosteomyelitis which has progressed for several days, it may be found that the entire periosteum is elevated by pus and the shaft is dead from epiphysis to epiphysis. An X-ray photograph shows rarefaction and smudging of the shaft with ill-defined margins and separated periosteum. Removal of the diaphysis is indicated. Having liberated the subperiosteal collection of pus by a long incision, the diaphysis is divided in its centre by bone forceps or a gigli saw, and both halves are removed easily. The periosteal envelope is emptied of pus and Orr's treatment instituted. If the bone is one of two, *e.g.*, the tibia, the danger of subsequent deformity is avoided by a simple plaster cast, but in the case of an unsupported bone extension is also required. The periosteum rapidly forms a new casing of bone in most cases. The whole of such a bone as the clavicle or radius may be removed and will be replaced ultimately by a new bone from the periosteum.

(*To be continued.*)

More Nursery Rhymes

I

Little Miss Russel sat on her bustle,
Feeding Bacillus Ducrey,
When along came a builder,
Said, " Sorry, Matilda—
We're shifting you over the way."

II

Three R.O.'s, three R.O.'s,
See how they pull, see how they pull ;
They all put on forceps and gave 'em a twist,
But their facial expression ought not have been missed
When on the floor fell an ovarian cyst—
Poor R.O. !

Three H.P.'s, three H.P.'s,
See them prescribe, see them prescribe ;
They decided one day on a bit of a rag,
And gave all their patients Mistura Casc. Sag.,
But oh ! when the nurses discovered the snag—
Poor H.P. !

Three H.S.'s, three H.S.'s,
See how they cut, see how they cut ;
They all went after a hernial sac,
At the end of the op. they had all had a smack,
And now the poor man wants his testicles back—
Poor H.S. !

AUNTIE ENEMA.

Correspondence

Humour among the Doctors

THE following letter was recently received by a member of the Staff, and we have full permission for its publication :—

" — — — —

" This tiresome old woman is a cross I have borne more or less patiently for 25 years. She has at intervals submitted to almost every kind of clinical investigation, always with negative results. The cure of one pain in one part of her vast anatomy has invariably been succeeded by its recurrence in another. So long as she is receiving treatment of any kind she is gloomily cheerful, but life to her is of no value without the *obligato* of a bottle of medicine or its equivalent.

"Leeches, loathsome drugs, and the more painful kinds of electricity only deter her for a little, and she then returns mournfully to the charge. Completely concentrated on an exceedingly uninteresting ego she is a nuisance to her family and her former friends take cover at sight. I have always borne in mind that some day in the course of a long life she will really get something the matter with her, so on each fresh complaint I make a very thorough overhaul, but so far have always drawn a blank. Recently my patience has worn a little thin, and it is only a few months back that Dr. ——, at —— failed to detect anything of any consequence. She has an obsession that I could cure her if I would. To return her to me would be a blow indeed. Please keep her for a while and give me a little respite, and then after a spell of rest and refreshment I will shoulder the burden and stagger along with it until death mercifully terminates our mutual sufferings.

" With kind regards and in all sympathy,

" Yours, etc.,

" ——— ."

Kaolin in Food Poisoning

To the Editor of the GAZETTE

SIR,—It was very gratifying to read Dr. Nesbitt Wood's remarks in the last number of the *Gazette* describing his successful use of kaolin in the commoner varieties of food poisoning. I have advocated this method incessantly for the past ten or twelve years, but the old school of castor oil and opium dies a hard death. The rapid all-round improvement which follows the use of kaolin in these cases is one of the most striking phenomena of modern therapeutics.

To give castor oil after the intestinal contents have been evacuated is sheer torment. Opium locks up the residual poisons in the bowel and thus increases both toxæmia and the local damage to the mucosa, but kaolin, by adsorbing or "precipitating" the toxins, renders them innocuous and converts the irritant internal slime into a bland form of cataplasma kaoline, a very soothing application indeed.

In my own experience kaolin has proved uniformly successful in so far as diarrhœa has been due to organic irritants preformed in the food or arising from the action of bacteria on the food after ingestion. It cannot exert any direct action on infections of the bowel wall.

Yours, etc.,

N. MUTCH.

19, Cavendish Square,
W.1.

Reviews

A Practical Chemistry. By G. P. McHUGH, Ph.D. Published by Messrs. Longmans, Green & Co., Ltd., 1934. Pp. 116. *Price* ——.

THIS little book of slightly more than a hundred pages, intended primarily for students preparing for Higher School Certificate, covers elementary Qualitative and Volumetric Analysis, together with a certain number of simple Inorganic and Organic preparations.

Group Analysis for metals is dealt with in considerable detail and emphasis is laid on those parts in which experience shows students find most difficulty. It is, however, disappointing to find the tests for acid radicals dismissed rather summarily. The disposition of a list of reactions of the metals immediately before the Group Table to which they correspond is new and should assist the student to understand the reactions involved in analysis and also to fix in his mind some simple properties of the elements concerned.

The section on Volumetric Analysis amply covers the 1st M.B. syllabus, and the instructions and calculations are clear and concise, whilst the explanations of the underlying principles are dealt with in sufficient detail for a book of this nature.

Of the preparations given the inorganic ones, though showing considerable variety, are, with a few exceptions, rather advanced and outside the medical syllabus. Most of the organic preparations should be within the capacity of the medcial student, though the selection would be considerably improved by the inclusion of more crystalline compounds with particulars of melting-point determination.

F. H. B.

John Keats's Anatomical and Physiological Notebook. Edited by MAURICE BUXTON FORMAN. Published by Oxford University Press. Pp. 68. *Price* 12*s*. 6*d*.

THIS is a typical notebook of a medical student of the early 19th century. The notes are incomplete and do not exhibit that meticulous attention to detail which we are wont to associate with our medical forefathers. In fact, the only possible excuse for its publication can be that Keats wrote it. Medically it is uninteresting, and students of Keats will glean little about his character from its perusal. The fact that he was a Guy's man is not generally known, and the notes contain references to members of the staff of the period. The price is exorbitant, but the printing is good.

Aids to Qualitative Inorganic Analysis. Published by Messrs. Baillière, Tindall & Cox. Pp. x+ 204. *Price* 3*s*. 6*d*.

THIS well set-out little text-book is intended primarily for students taking the 1st M.B. examination, and is suitable also for the Pre-Medical Examination. Some, but not all, of the organic substances set in the Pre-Medical syllabus are also included. The author might well have added the remaining few organic compounds, which would improve the book materially from the point of view of those students taking the latter examination. The analytical tables follow on the usual lines, but too much stress is laid on the dry tests, which need not occupy so much attention as the author thinks.

Advice to the Expectant Mother on the Care of her Health. By F. J. BROWNE, M.D., F.R.C.S.(Ed.), F.C.O.G. Published by Messrs. Livingstone, Ltd., Edinburgh. Third Edition, 1934. Pp. 48. *Price* 6*d.*

THIS little book should prove valuable to expectant mothers. It is written in simple language and is full of good advice. It may with advantage be recommended by general practitioners to their intelligent patients, but it is doubtful whether the average working-class patient would derive much benefit from it.

The chapter on the hygiene of pregnancy is good, but perhaps it might be mentioned that one of the signs of commencing labour is rupture of the membranes. This is apt to cause unnecessary alarm to patients when they have not been previously warned. The whole section on the signs of commencing labour might with advantage be amplified.

The mention of eclampsia and cancer of the womb may cause impressionable patients some worry, though, of course, both subjects are of vital importance, and propaganda of this kind is much wanted. It seems a pity, however, to bring cancer into the minds of expectant mothers.

The sections on the care of the baby and breast-feeding are excellent.

The book is well and clearly printed and published at a modest price.

The Hygiene of Marriage. By I. E. HUTTON, M.D. Published by Messrs. William Heinemann (Medical Books), Ltd. Fourth Edition. Pp. 146. *Price* 5*s.*

THIS book, now well recognised as valuable and informative and to be recommended for reading by the public, has been amplified in its latest edition. The chapters discussing the proper attitude to marriage, normal relations between husband and wife both in the early months and later years of married life, could hardly be bettered; they are clearly and sanely written, without a surfeit of medical, including psychological, jargon, and can be easily read and understood by any man or woman of ordinary intelligence, the majority of whom, including many a doctor, would surely benefit.

If the later chapters on physiology are not quite so good, they are adequate. There is also a brief chapter on contraceptives. The pages discussing anæsthesia in childbirth are open to criticism, but do not detract from our whole-hearted admiration of this little book as a whole.

Sport

Guy's Hospital Athletic Club

United Hospitals' Sports

THESE were held at Motspur Park on Saturday, May 26th, Bart.'s being first, St. Thomas's second and Guy's third.

The team worked hard and put up a much better show than in previous years, and the keenness of the younger members encouraged the hope that we may soon regain the shield.

A. E. J. Etheridge won the three miles with ease and J. Dryland ran hard for fourth place.

Etheridge was also second in the mile. In the half-mile J. Tilly did well to get third in his first season, and so did D. Dutoit, who was second in the quarter-mile.

D. Griffin was just beaten in the hurdles, and R. Yerbury was second in the high jump. P. H. Denton was third in the javelin, and the tug-of-war team got into the final and might have won had they had more practice.

Guy's v. Reading University

At Reading on May 29th, Guy's ran an evening match against the University and were successful after a closely contested match.

After a bad start in the 100 yards, in which Guy's obtained third place points, the high jumpers, Yerbury and Revell, easily beat their men, to make points level. Griffin and Yerbury won the hurdles, to place Guy's in the lead, where they remained till the end. Dutoit was second in the quarter-mile and 220 yards, Clark being third in the latter.

Excellent throwing in the javelin, discus and weight by Denton, Brown and Leash proved the deciding point in the match.

Etheridge won the three miles and mile and Griffin the long jump. The relay team of Lyon, Pearce, Brown and Dutoit worked hard, but were beaten by a fresher team, leaving Guy's the winners by 32 points to 26.

Swimming

WE would like to take this opportunity of congratulating C. A. Styer, A. M. Edwards and C. de Gruchy on being chosen to represent London University in the English Universities Championships. A. M. Edwards, who was awarded his purple last year, was also chosen to represent the English against the Scottish Universities. He swam in the 220 yards free style race, which he won.

On Saturday, May 19th, Guy's met Brighton College at swimming and water polo. We won the swimming by 3 events to 1 and the polo by 6 goals to 3.

RESULTS

100 *yards*.—1, D. Laing (Guy's); 2. D. P. King (Guy's). Time, 67 secs.

50 *yards*.—1. A. M. McCall (Guy's); 2. T. Cook (Brighton). Time, 29 3/5 secs.

Diving.—1. A. Curtiss (Brighton); 2. L. Smith (Brighton).

Relay.—1. Guy's; 2. Brighton.

On Wednesday, May 30th, we met the Old Paulines at Baron's Court. We won the swimming by 2 event to 1, but lost the polo for the first time this season by 4 goals to nil.

RESULTS

100 *yards*.—1. A. M. Edwards; 2. F. W. Locker (Old Paulines). Time 61 secs.

50 *Yards*.—1. T. Race (Old Paulines); 2. W. Palin (Guy's) and H. Foster (Old Paulines) dead heat. Time, 29 secs.

Relay.—Guy's. Time, 1.49 2/5 secs.

First Round, Inter-Hospitals Water-Polo Cup

Guy's met University College Hospital on Friday, June 1st, at Lavington Street.

Guy's won the toss and defended the deep end first. We started very strongly, and after some mid-field play C. A. Styer broke away cleverly and opened the scoring with a very fine shot from the left wing. The same player scored again before the interval.

In the second half we played much better together. Although our opponents made one or two attacks, they were hardly ever in the picture, and we went further ahead with goals from J. A. R. Smit (2), C. A. Styer (1), D. MacPherson (1), A. M. McCall (1). The final score was—Guy's, 7; University College Hospital, 1.

This year the Annual Gala of the United Hospitals Swimming Club will be held on Saturday, June 30th, at 8.30 p.m., at the Marshall Street Baths (which are within one minute's walk of Oxford Circus).

The Inter-Hospital Diving and Swimming Cups and Nurses' Inter-Hospital Cup will be competed for. There will be, in addition, an Exhibition of Fancy Diving; also a polo match, the Final of the Inter-Hospitals Polo Cup Competition.

As in past years, we make no charge for admission, but rely on sale of programmes and subscriptions for financial support. The President and his Committee hope for the presence of a large number of the members of the London Teaching Hospitals, and their wives.

Application for tickets, the number of which is limited, should be made to C. L. Heanley, Esq., London Hospital, E.1.

Lawn Tennis

A TENNIS tournament in aid of the Hospital funds was held at Honor Oak Park on June 9th. Everyone had an enjoyable afternoon, victors and vanquished alike, and £50 net was handed in to the Hospital authorities by the treasurer, Mrs. Eric Scott.

The prize-winners were: Mr. Giesen and Miss Clarke, Mr. and Miss Kenyon, Mr. Haytor and Miss Stubbs, Mr. Cummins and Miss Marsh. Congratulations to Mr. Giesen and Miss Clarke on winning an exciting final in spite of Miss Clarke's night duty.

Lady Ebbisham attended and was to have distributed the prizes, but, owing to the late hour, Mrs. Frank Cook deputised for her and also auctioned Mr. Cummins's prize for the benefit of the funds. Prizes were given by Lady Ebbisham, Dr. Watt, Mrs. Watt, Dr. Guy Cooper, Mrs. Eric Scott, Mr. Burton and Mrs. John Gordon. Tennis balls were given by Messrs. Slazenger.

The thanks of the committee are specially due to the Clubs' Union for the loan of the ground, to Mr. R. G. Hunt for his self-sacrificing energy as organising secretary, and to Mrs. Watts and friends for the tea.

J. H. RYFFEL,
Chairman of Committee.

Rifle Club

The Staff Match, Bisley, 1934

THIS important event took place on Sunday, June 3rd. The President, Mr. Trethowan, being laid low by illness, was unfortunately unable to lend the Staff his valuable support, and was greatly missed.

Although, perhaps, the numbers were smaller than last year, it so happened that, with the targets in use continually, there was barely time for both sides to shoot through.

After dinner, everyone fired on two hundred yards, then on five and six hundred. The Staff quite definitely took second place on the first range, and went back to five. At this point Professor Johnston and Mr. Stamm arrived, really just to see how things were going on, but after a little persuasion consented to shoot. The Dean, after getting into all sorts of trouble due to an ill-adjusted sling, eventually got into the bull. Mr. Stamm shot steadily throughout. When the rest of the Staff, now on five hundred yards, heard about this they were visibly heartened, Mr. Eckhoff to such an extent that he only missed getting a possible by the narrow margin of two points.

On six hundred, the most difficult range, both sides shot well, Mr. Boswell finishing with the excellent score of 101 out of 105. The Dental School, so far unmentioned, was well represented by Mr. Kenshole, Mr. Rix, Mr. Hooper and last, but certainly not least, Mr. Hooper, Jnr.

The Students gained a fair average score of 479, thus being defeated for the first time by the Staff, who got 525. The Staff had an extra man, but, it being a friendly match, that didn't matter.

Hospital Information, etc.

Guy's Innominate Club, 1921

The Sixth Annual Dinner was held at the Trocadero Restaurant on Friday, June 1st. Mr. G. T. Hankey was in the Chair. The gathering, 40 in number, was a record numerically, and socially it was voted by all a great success.

We were pleased to have "Doc" Hancock with us, and sorry that H. J. Silby and W. H. Ogilvie were unable to attend.

The membership of the Club has now reached its maximum; vacancies may occur upon resignations.

Next Dinner—first Friday in June, 1935.

G. T. H.

Pass List

UNIVERSITY OF LONDON.

THIRD M.B., B.S. EXAMINATION.

May, 1934.

PASS.

J. L. Bates
R. T. Elwes
E. F. Hewlitt
N. M. Jacoby
G. C. Sawyer
W. P. Stamm
S. H. Wass

GROUP I.

J. A. Brocklebank
I. A. Cathie
W. T. J. Fowler
D. S. Piper

GROUP II.

E. D. Falconer
B. W. Smith
E. C. Zorab

Papers by Guy's Men

D. Denny-Brown and E. Graeme Robertson. The state of the bladder and its sphincters in complete transverse lesions of the spinal cord and cauda equina. *Brain*, 1933, lvi, 397.

Martin A. Rushton. A case of anidrotic extodermal dysplasia showing extensive dental defect. *Dental Record*, 1934, liv, 305.

C. S. Hallpike and A. F. Rawdon-Smith. The "Wever and Bray Phenomenon"; a study of the electrical response in the cochlea with special reference to its origin. *Jour. Phys.*, 1934, lxxxi, 395.

R. C. Brock. Some points in the treatment of empyema. *Jour. Roy. Naval Med. Serv.*, 1934, xx, 136.

Appointment

G. L. B. Thurston, M.R.C.S., L.R.C.P., Resident Medical Officer to Pembury Hospital.

Change of Address

G. L. B. Thurston, Pembury Hospital, near Tunbridge Wells, Kent.

Births

VERMOOTEN.—On May 17th, 1934, at the York Road Nursing Home, Bloemfontein, South Africa, to Billie (née Pålsson), wife of Ian R. Vermooten—a son.

FRIPP.—On June 11th, 1934, at 20, Devonshire Place, to Jennie (née Kimpton), wife of A. T. Fripp, F.R.C.S. —a daughter.

EDS. { D. P. K. / P. W. C.

GUY'S HOSPITAL GAZETTE

A Journal of Medicine, Surgery, Dentistry and Hospital News.

PUBLISHED FORTNIGHTLY.

Volume XLVIII — *7th July* 1934 — *Number* 1199

PASSIM

AN interesting visit was paid to Guy's a few days ago by an old patient, Mr. Samuel Newman. Mr. Newman underwent a major operation in the pre-Listerian era, and has survived it for 68 years.

On account of chronic sepsis in a leg following an old injury, Sir Thomas Bryant in 1868 amputated the limb, operating twice in the one afternoon. It is not surprising to hear it was nine months before the patient was discharged. There must have been a good deal of " laudable " pus before that wound healed. Mr. Newman is now 76 ; he has spent an active life and, though now nearly blind, is otherwise in excellent health.

To judge from external appearances the work on the new Private Block has been proceeding very slowly, and it is only now, five weeks after the date on which Clinical was cleared of half its male patients, that the babies are being moved from their present quarters.

It seems a pity that while the builders are with us nothing is to be done about providing a room for the Out-Patient Officers on duty in the Surgery. The question is old and well worn, but we make no apology for raising it again. In the hall of the Surgery there is a large space occupied at the moment by several rows of unused benches, and it would be a simple matter to separate off a portion of this space as a room where the O.P.O. could rest his tired limbs during the few precious moments he has to spare. If it were not for the kindness and hospitality of Sister Surgery in allowing the Out-Patient Officers almost free use of her room there would be nowhere where they could retire and yet be conveniently at hand in the case of emergency.

While on the question of the Surgery we would like to make a plea for some alteration in the garments worn by the dressers on duty. Towards the end of the day it must be difficult for many of our patients to be certain whether they have entered a butcher's slaughter-house or the surgery of a London hospital. Although the distinction is a fine one, perhaps, the resemblance would be less if the dressers wore " Theatre gowns " instead of those " frightful aprons."

THIS year the Ladies' Fête was as great a success as ever. The torrential showers which punctuated the afternoon were unable to drive a very good crowd of eager gamblers from losing their money on machines which now no longer appear elsewhere in the precincts of the Hospital.

The elephant from the Chessington Zoo behaved, for so well advertised a beast, with great docility, except towards its hired victims, whom it sprayed with considerable zest.

The services of the best dancers in the College were on hire—in that capacity—in the Nurses' Home. This fact could not have been widely enough appreciated, as they seemed the least busy of the workers.

It is not yet known how much was made, but it appears the amount was well up to former years.

WE wish to congratulate Mr. W. N. Mann on his signal success in winning the Beaney Prize in Pathology, the Treasurer's Prize in Surgery, and the Treasurer's Prize in Medicine for the year 1933-34.

WE would like to congratulate the following on their appointments as Clinicals :—

P. C. Alexander	H. A. Hamilton
R. H. Blazeby	B. C. Morton-Palmer
A. M. G. Campbell	C. G. Pantin

Dysphagia

A Clinical Lecture delivered at Guy's Hospital by W. M. Mollison, Esq., C.B.E., M.Ch., F.R.C.S., on Monday, June 18th, 1934

GENTLEMEN,—Dysphagia is a symptom for which you will frequently be consulted. It is a very important symptom and has many causes. I do not propose to give you a detailed review of the whole question, but shall rather survey briefly the causes and then enter with more detail into one or two of the special causes.

Dysphagia is met with at all ages, and must always be carefully considered, even when the examiner feels that the patient has no organic lesion. It is better to regard a case as organic and find eventually that it is functional than to make the diagnosis of functional disorder and then to find, at a later and less hopeful stage, that there is something organically wrong.

The importance of real dysphagia cannot, I think, be over-emphasised. Its degree varies from a difficulty in swallowing large mouthfuls of food to inability to swallow even fluids. Starvation from lack of solid food is a very unpleasant condition, and leads to wasting and may eventually lead to death, though many patients may live for months or years on fluids only. Fluid-starvation is ill-borne, and rapidly proves fatal. Such cases require immediate gastrostomy, and, even so, may not survive that operation if the starvation from fluids has lasted for more than one or two days.

Dysphagia does not always mean that there is mechanical obstruction to the passage of solids or fluids; it may mean that the patient experiences so much pain on swallowing that he refuses even to make the attempt; this condition may well be called dysphagia. It is evident there are conditions in which dynphagia and dysphagia are coincident —carcinoma of the œsophagus is a common example.

Always listen to the patient's history of his case. Often it is a lengthy and diffuse narrative, but some little points in it may put you on the right track. Never neglect the symptom of pain or difficulty in swallowing. In cases in which a foreign body has been swallowed, as, for instance, a fish bone, or a small meat bone, the patient often complains of pain when swallowing for some days afterwards, but actually has little difficulty in swallowing his food; the mucous membrane has probably been scratched at the time the foreign body was swallowed, but, like all pharyngeal mucous membrane lesions, it quickly heals.

If there is real difficulty in getting down each mouthful of food or drink, and if pain is experienced even when no effort is being made to swallow, the case must always be regarded seriously and an X-ray examination made and an œsophagoscopy to make certain if there is or is not a foreign body. Neglect of this persistent pain and difficulty lead to the overlooking of a foreign body.

A man swallowed a piece of pheasant bone and then complained of great pain in his epigastrium and difficulty in swallowing. He went to a hospital, where he was given barium emulsion and X-rayed. The barium passed easily down the œsophagus, and on that evidence the surgeon decided there was no foreign body. The patient continued to have great pain on swallowing, and was referred to me. I sent the patient to Mr. Lindsay Locke, telling him there had already been an examination with barium with a negative result, but that I felt there must be something wrong in the œsophagus. For difficult cases of foreign body Mr. Locke gives the patient pledgets of cotton wool soaked in barium emuslion to swallow, the cotton wool gets caught on the foreign body, and the X-rays show it up. By this method Mr. Locke found there was something about half-way down the œsophagus. Susbequent œsophagoscopy disclosed a splinter of bone an inch and a half long, one end of which was projecting into one œsophageal wall and the other end projecting into the other wall; in order to remove the bone it was necessary to break it in half. That case shows the importance of listening to the patient's story.

Another, and even more serious, case which comes to my mind was that of an elderly man who knew he had swallowed a piece of rabbit bone. He had great pain and complete dysphagia, or so nearly complete that there was little he could get down. He was examined, but at the first examination no foreign body was found. In spite of the fact that his severe symptoms continued, further attempts at removal were not made, but an X-ray examination was suggested "if the dysphagia persists."

The patient was transferred to a nursing home and an immediate œsophagoscopy performed. The piece of bone was found and removed from behind the cricoid and, as the œsophagoscope was passed behind the cricoid, out came a quantity of pus; this was from an abscess in connection with damage to the œsophageal wall made by the foreign body,

and he was very fortunate in getting well, as he did.

In listening to the patient's history one must preserve an open mind. Some, notably hospital patients, are apt to look upon a semi-solid or fluid diet as of no real value, and will state that they have not been able to "take anything for weeks," meaning that they have not had crusty bread and butter or chops.

Then, too, there is an interesting class of patients, almost always women, who never have been able to swallow ordinary mouthfuls, who always have had to chew every mouthful very carefully before swallowing; they are naturally thin, but they do not lose weight. Examination shows a distinct narrowing of the upper opening into the œsophagus, probably congenital.

The cases of dysphagia may be placed in three groups :—

A.—Those due to pain.

B.—Those with mechanical difficulty.

C.—Those with nervous disability.

Before proceeding to enumerate the causes in these groups the factors involved in swallowing may be very briefly considered : the food is placed in the mouth; it is then chewed, being moved appropriately by the tongue and cheeks and covered with saliva. The bolus is passed backwards to the pharyngeal constrictors, the soft palate lifted up to close off the nasopharynx. The constrictors pass it downwards; at the same time the larynx is lifted up and forwards so that the bolus may be passed to the post-cricoid space. The bolus now passes down the œsophagus by peristaltic action, and finally the cardia of the stomach relaxes and the bolus passes into the stomach.

The object of mentioning these elementary points is that any defect in the act from the opening of the mouth to receive the food to the final relaxation of the cardiac orifice leads to dysphagia of greater or lesser degree.

To expand the list of causes of dysphagia.

Group A.—Dysphagia on account of pain : dynphagia.

Due to conditions—

1. In the mouth, tongue and tonsils.
2. In the pharyngeal wall.
3. In the larynx—those parts exposed to the food in its passage.
4. In the œsophagus.

Group B.—Dysphagia due to mechanical obstruction in the passage of food.

1. Teeth, jaws and cheeks.
2. Tongue, floor of mouth and salivary glands.
3. Palate.
4. Oropharynx and deep pharynx.
5. Pharyngeal pouch.
6. Hypopharynx.
7. Œsophagus.

Group C.—Dysphagia due to nervous disability.

I. Organic.

a. Inco-ordination of the mechanism of chewing and passing the bolus to the constrictors; peripheral neuritis, *e.g.*, alcoholic.

b. Paralysis of the pharyngeal muscles often associated with paralysis of the palate, *e.g.* bulbar paralysis, myasthenia gravis.

c. Plummer-Vinson syndrome. This condition may be included here, though its cause is not known.

d. Achalasia, probably due to degeneration of the nerves and cells in Auerbach's plexus in the œsophageal wall.

II. Functional causes—Hysterical.

Cases occur in which much dysphagia is complained of and the patient loses weight, yet œsophagoscopy shows no obstruction and the mere passage of the œsophagoscope or œsophageal bougies cures the condition.

GROUP A

Dysphagia on Account of Pain

1. *Conditions of the mouth, tongue and tonsils.*

The mouth may be the site of herpes, stomatitis, streptococcal or tuberculous ulcerations, all of which mean pain on attempting to chew and move the food in the mouth.

The tongue and tonsils.—Acute tonsillitis and peritonsillitis in much greater degree make swallowing even of fluids very painful and difficult; the patient refuses to swallow his saliva in bad cases.

Parenchymatous glossitis gives dynphagia and dysphagia on account of the associated pain and swelling of the tongue. Abscess of the tongue always in the posterior part is too a most painful condition, and thus prevents swallowing.

3. *Pharyngeal wall.*

Retropharyngeal abscess is a common cause of dysphagia in children and sometimes in adults.

Ulcerations on the pharyngeal wall, tuberculous or carcinomatous.

4. *Larynx.*

Ulcerations and inflammations of the epiglottis, notably tuberculous and carcinomatous. One of the worst symptoms of advanced tuberculous ulceration of the larynx, particularly of the posterior aspects of the arytenoids, is the great pain on swallowing. It is for this condition that injections into the superior laryngeal nerves is practised to anæsthetise the larynx and allow of swallowing.

5. *The Œsophagus.*

Dynphagia occurs from the pressure of foreign bodies that do not necessarily cause mechanical obstruction.

Peptic ulcers at the lowest part of the œsophagus cause much pain on swallowing.

GROUP B.

Mechanical Causes of Dysphagia

1. *Teeth, jaws and cheeks.*

It may not be possible to open the mouth on account of trismus due to tetanus, affections of the temporomandibular joint or the muscles of mastication.

2. *Tongue, floor of mouth and salivary glands.*

The tongue may be fixed in the floor of the mouth as the result of healed syphilitic ulceration or post-operative scarring after removal of part of the tongue. This fixation results in considerable difficulty in swallowing.

Lack of saliva may be a cause of dysphagia; the cause of that lack may be the taking of drugs, *e.g.*, atropine, or psychical, or even dehydration from purgatives. For example, a man complained of dysphagia; examination revealed no lesion in the pharynx, and the only other symptom was a very dry mouth. He was taking daily aperients to correct a chronic constipation due, in its turn, to an enlarged prostate.

3. *The palate.*

Patients with a defect in the palate, whether congenital cleft palate or as the result of gummatous ulceration, suffer from difficulty in swallowing, just as do cases of paralysis of the palate and growths in the roof of the mouth. Not long ago we had an instructive example of that, a very large recurrence of a mixed salivary tumour in the roof of the mouth, and the patient was starving, as he could not swallow even fluids.

Before considering the mechanical causes of dysphagia in the pharynx and œsophagus the diagram (Fig. 1) is helpful.

It represents the different parts of the pharynx and œsophagus; above the soft palate the naso-pharynx; below the soft palate as far down as the level of the arytenoid cartilages is the oro-pharynx and deep pharynx, with the recesses on either side of the larynx—the pyriform fossæ represented by the dotted lines.

Below this that part of the food tract behind the cricoid cartilage, the hypopharynx; this is only a potential space, except during the act of deglutition, when it opens to allow food to pass. From the lower border of the cricoid cartilage onwards is the œsophagus, ending at the cardia.

The common mechanical cause of dysphagia in the pharynx is, unfortunately, carcinoma in the deep pharynx, and particularly in the pyriform fossæ. It is frequent in men, rare in women.

Foreign bodies only occasionally lodge in the pyriform fossæ, and then cause dysphagia.

Large tonsils do not cause dysphagia.

It is evident that mechanical obstruction by large foreign bodies in the deep pharynx will also cause respiratory obstruction, and unless immediate action is taken death will occur.

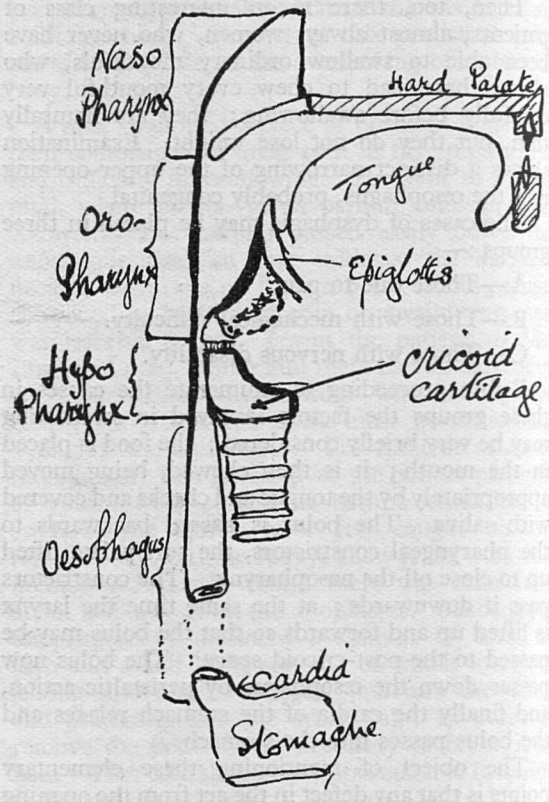

Fig. 1

Diagram to show the different parts of the gullet

The hypopharynx is, from its anatomical features, very liable to arrest foreign bodies. It is also the common site of carcinoma of the gullet in women. The growth originates in the mucous membrane on the smooth posterior wall of the cricoid and for that reason is sometimes called a "party-wall" carcinoma. It may occur at as early an age as 25, and commonly between 35 and 45. When it occurs in men it is at a later age as a rule. It produces dysphagia in its early stages, but patients often delay consulting a doctor till they have suffered from the symptom for some time and have lost weight. The diagnosis is determined by the appearance in the laryngeal muscle of the upper edge of the growth immediately behind the arytenoid cartilages.

One of the causes of dysphagia is of some anatomical interest; this is so-called œsophageal pouch—actually this is a pharyngeal pouch. In diagram 2 is shown the junction of pharynx and

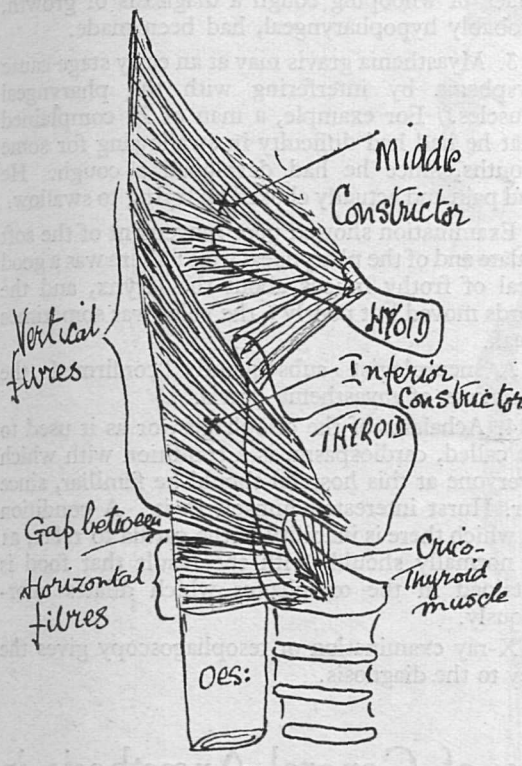

Fig. 2

Diagram to show the gap between the ascending (vertical) and horizontal parts of the Inferior constrictor, through which a pharyngeal pouch projects

œsophagus. The inferior constrictor muscle is composed of radiating fibres. The uppermost fibres pass steeply upwards while the lowest pass horizontally, and indeed there are two groups of fibres, and between these groups is a slight gap, and it is through this gap that a bulge of the mucous and submucous walls of the deep pharynx occurs. As the little bulge grows, it is at first posterior to the pharynx; later it tends to pass to the left side, and if the pouch is large it can be felt in the neck, and food lodged in it can be passed back into the deep pharynx and thence may be regurgitated into the mouth.

These pouches cause obstruction because food passes into them, dilates them, and thus compresses the œsophagus.

These pouches are of some interest, because they produce symptoms which are indistinguishable from those of carcinoma in the deep part of the pharynx. I have here the notes of the case of an old gentleman who had a pouch of this kind. He was 74 years of age. He complained that food seemed to lodge in his throat, and when he coughed food returned into his mouth; if he coughed in the morning he ejected food which he had taken the previous night. He was much worried by the cough at night. Recently he had had a cold, and the symptoms became more marked. Examination showed much frothy mucus about the upper opening of the larynx. A skiagram revealed a pouch. Fortunately, X-ray examination after mouthfuls of barium decides the diagnosis of pouch as against that of carcinoma.

In the œsophagus, mechanical obstruction is due to three main causes: foreign bodies, carcinoma and stenosis of traumatic origin.

Foreign bodies may lodge in any part of the tube; they should always be removed as soon as the diagnosis is established, not only to relieve symptoms but to prevent ulceration of the œsophageal wall, which may cause mediastinitis, a very serious complication.

It is of interest to notice that the presence of even a small smooth foreign body may inhibit the normal relaxation of the cardiac end of the œsophagus and to cause marked dysphagia. For example, a man complained of inability to swallow. Œsophagoscopy demonstrated the presence of a plum stone at the lower end of the œsophagus. While forceps were being introduced to remove it, the stone passed into the stomach.

Carcinoma of the œsophagus is far commoner in men than women, and may occur at any part of the tube. It may be in the form of an ulcerating growth occupying a length of the tube up to six or more inches, or it may be in the form of an infiltrating ring.

Fibrous stricture occurs as the result of swallowing corrosive liquids, often with suicidal intent, or as the result of syphilitic infiltration, now a very rare condition, or as the result of infiltration from the mediastinum or pleura. The last condition has been seen after pneumonia and probably empyema, and after what appeared to be a simple bronchitis.

GROUP C

Nervous Causes of Dysphagia

These have been enumerated above. Three conditions must be mentioned here.

1. Plummer-Vinson syndrome.—A condition found in women, consisting of inability to swallow ordinary food, a smooth red tongue, a glazed pharyngeal wall and anæmia. In most cases, if not in all, complete extraction of teeth has preceded the onset of symptoms.

Treatment of the anæmia and the passage of an œsophageal bougie helps these patients greatly.

2. Paralysis of the pharyngeal muscles is a very potent cause of dysphagia. The pharyngeal plexus of nerves is composed of fibres from the 9th, 10th and 11th cranial nerves; acutally the accessory part of the 11th nerve is the most important; the fibres spring from the nucleus ambiguus in the medulla. There is not time to consider the causes of paralysis of this plexus and its nucleus, but reference can be made to a paper in the Hospital Reports for January, 1929.

Paralysis of one side of the pharyngeal wall is often combined with paralysis of the soft palate and vocal cord of the same side. As the pharyngeal constrictors are unable to pass food and saliva to the œsophagus, saliva and mucus is apt to collect in the deep pharynx and pyriform fossæ, and unless the lack of movement of the pharyngeal wall is noticed, growth in the pyriform fossa may be suspected.

One case only will be quoted here. A lady of 82 was seen in 1927, complaining of difficulty in swallowing that had begun six years before after whooping cough. She was able to swallow enough, but always with difficulty.

It is probable that a paroxysm of coughing caused a small hæmorrhage into the nucleus in the medulla with resulting paralysis of the pharyngeal muscles.

Examination showed much frothy mucus filling the pyriform fossæ, and no movement could be seen in one side of the pharyngeal wall. It is of some interest to note that one year after the attack of whooping cough a diagnosis of growth, probably hypopharyngeal, had been made.

3. Myasthenia gravis may at an early stage cause dysphagia by interfering with the pharyngeal muscles. For example, a man of 22 complained that he had had difficulty in swallowing for some months, since he had developed a cough. He had pain and actually choked on trying to swallow.

Examination showed poor movement of the soft palate and of the pharyngeal wall; there was a good deal of frothy mucus about the larynx, and the cords moved but poorly; the voice was sometimes weak.

A neurologist subsequently confirmed the diagnosis of myasthenia gravis.

4. Achalasia of the œsophagus, or as it used to be called, cardiospasm, is a condition with which everyone at this hospital should be familiar, since Dr. Hurst interested himself in it. A condition in which there is inability of the cardia to relax, as it normally should, with the result that food is retained in the œsophagus which dilates enormously.

X-ray examination or œsophagoscopy gives the key to the diagnosis.

Notes on the Use and Technique of General Anæsthesia in Dental Surgery, with Special Reference to Evipan

A Paper read before the Dental Society, Guy's Hospital, by Archibald D. Marston, Esq., M.R.C.S.Eng., L.R.C.P. Lond., L.D.S. Eng., on 7th May, 1934

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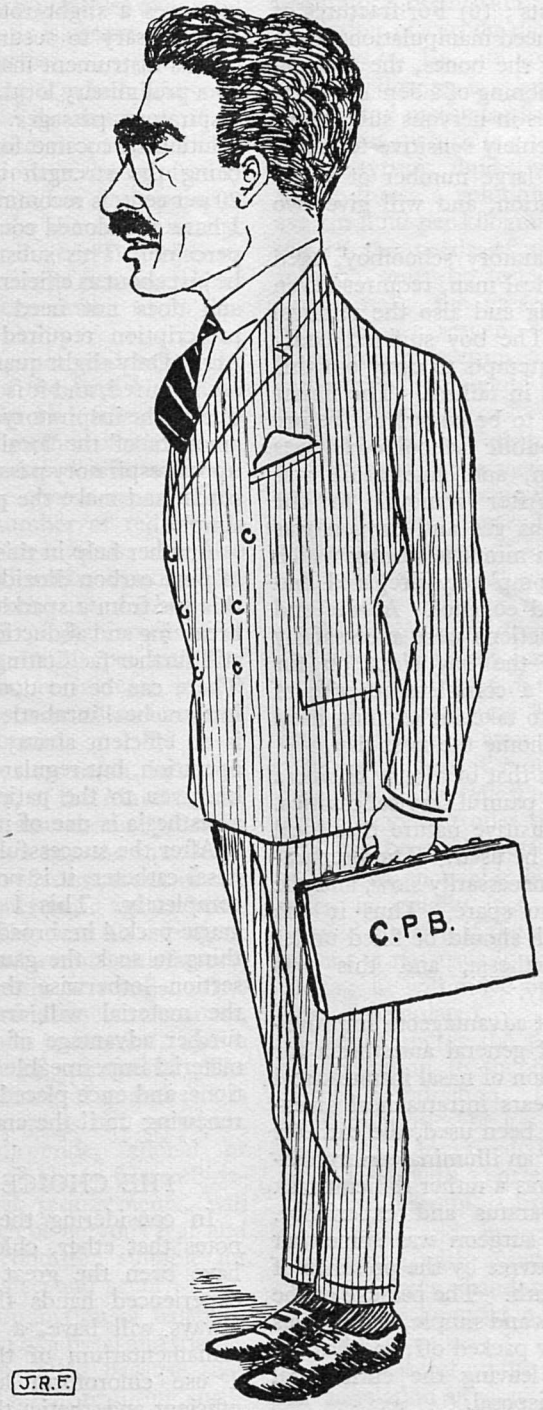
MR. CHAIRMAN and GENTLEMEN,—General anæsthetics have always been used for certain operations performed in dental surgery, and during the last decade this custom has become increasingly popular. The reason for this is twofold: (1) The improvement in both administrative technique and the variety of anæsthetic agents; (2) the recognition of the fact that dental operations of any duration should be regarded as major surgical procedures, and as such must have adequate preparation, the use of a modern operating theatre and suitable after-treatment.

With the evolution of anæsthetic technique it is possible nowadays to present the operator with an anæsthesia both smooth and tranquil, with perfect muscular relaxation, the oral cavity free and open, the pharynx packed off with gauze and the operative field kept dry by means of a mechanical sucker. Furthermore, with the use of basal anæsthetics it is possible to induce anæsthesia in the patient's own bed, thus doing away with the fright and apprehension which so often precede the journey to the operating theatre; and again, with the use of gas and oxygen the unpleasantness of post-operative nausea has been greatly mitigated and in many cases abolished. These last two considerations have certainly made continuous general anæsthesia more popular with the public, and it is encouraging to note that many patients who have experienced basal anæsthesia have no dread of its re-employment.

General anæsthesia would seem to be the best choice of an anæsthetic for the following opera-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tions : (1) Impacted wisdom teeth ; (2) Difficult extractions needing " surgical removal " ; (3) Multiple extractions ; (4) Removal of odontomes ; (5) Removal of dental cysts ; (6) For fractures of the mandible which may need manipulations, such as freshening the ends of the bones, the grafting of fresh bone, or the positioning of a dental splint ; (7) Preparations of cavities in nervous subjects or those suffering from extremely sensitive teeth.

I have administered a large number of anæsthetics for cavity preparation, and will give two examples :—

1. Master X. A preparatory schoolboy, aged 12, and the son of a medical man, requires seven or eight cavities preparing and also the removal of three carious teeth. The boy suffered badly from fear, and repeated attempts to carry out this work had always resulted in failure. The father was anxious for the work to be completed before the boy went to his public school. He was accordingly given avertin, and anæsthesia was successfully induced. After removal to the operating table, continuous gas and oxygen was given for an hour and ten minutes, during which time the cavities were completely prepared and filled with zinc oxide and eugenol. At the end of the operation the extractions were successfully carried out. Afterwards the boy slept on for several hours, there was a complete absence of nausea, and he was able to take his evening meal and to leave the nursing home the next day.

2. The second case was that of a busy business man who had a number of painful cervical cavities. These were of such a sensitive nature that local anæsthesia had usually to be used. The preparation of these cavities was necessarily slow, and the patient had little time to spare. Thus it was suggested that all his teeth should be filled under continuous general anæsthesia, and this was achieved most satisfactorily.

In my opinion, the most advantageous improvement in the technique of general anæsthesia for oral cases is the introduction of nasal intratracheal intubation. For many years intratracheal anæsthesia of an oral type has been used, the catheter being passed by means of an illuminated laryngoscope. This procedure was a rather difficult task and needed special apparatus and experience. Furthermore, the dental surgeon was somewhat embarrassed in his manœuvres by the presence of a large catheter in the mouth. The passage of the nasal catheter is both quick and simple, and enables the throat to be completely packed off, and has the additional advantage of leaving the entire oral cavity at the operator's disposal.

McGill was one of the first to note that in full extension of the head a lubricated catheter, passed down the anterior nares, would be directed in the great majority of cases into the upper laryngeal aperture, and thus into the trachea. In certain instances a slight rotation of the catheter might be necessary to secure this result. The passage of this instrument may be made still more simple by a preliminary local anæsthetisation of the upper respiratory passages. Many anæsthetists use a solution of cocaine for this purpose, 10 per cent. being the strength usually employed, although 20 per cent. is recommended by some. Personally, I have abandoned cocaine in favour of 2 per cent. percaine. This substance is non-toxic, seems to be just about as efficient as cocaine, is less expensive and does not need the somewhat complicated prescription required by the Dangerous Drugs Act. Only slight quantities of the local anæsthetic are required, and it is usually blown into the nares during the inspiratory phase of respiration. Slight amounts of the local anæsthetic thus reach the upper respiratory passages as far down as the vocal cords, and make the passage of the catheter more simple.

Another help in this manœuvre is the exhibition of pure carbon dioxide. Two or three breaths of this gas from a sparklet inhaler will produce deep breathing and abduction of the vocal cords, thereby still further facilitating the passage of the catheter. There can be no doubt about the advantages of intratracheal intubation with a soft tube—not only is an efficient airway maintained throughout the operation, but regular quantities of anæsthetic can be given to the patient ; the tranquility of this anæsthesia is one of its chief characteristics.

After the successful passage of the intratracheal nasal catheter, it is possible to pack off the throat completely. This I usually do by means of a gauze pack 4 in. broad by 8 in. long. It is a good thing to soak the gauze in paraffin before its insertion—otherwise the harsh and dry nature of the material will irritate the nasopharynx. A further advantage of the paraffin is to make the material impermeable to blood and the oral secretions, and once placed in position it does not need renewing until the end of the operation.

THE CHOICE OF ANÆSTHETIC

In considering the choice of anæsthetic, one notes that ether, chloroform and their mixtures have been the great stand-by of the past. In experienced hands these anæsthetics have, and always will have, a very valuable place in the armamentarium of the anæsthetist. Personally, I use chloroform less and less—although an efficient anæsthetic, there is a general recognition of its dangers, and one hesitates to expose a patient to the influence of this drug unless there be a

clear indication, such as its use in the presence of a cautery or the diathermy knife.

I think one may say, without risk of contradiction, that in these days any routine use of chloroform as the choice of anæsthetic is contra-indicated on account of its toxic properties.

In regard to ether, the safety of which is beyond question, there is always the disadvantage of its nausea-provoking qualities and its prohibition in cases of inflammatory conditions of the respiratory system, and also because of its low flash point of 200° C., in the preserce of the diatermy cautery. Thus the routine use of ether in general anæsthesia is challenged by the introduction of new anæsthetic agents, and attention has been drawn to its disadvantages.

Finsterer, in a most able paper read before the recent Centenary Meeting of the British Medical Association, stated that ether had few claims to be considered a physiological method of anæsthesia. It was a lipoid solvent, produced effects on the liver and kidneys, altered the concentration of the blood-sugar, reduced the number of red blood-corpuscles, and impaired phagocytosis. He also considered post-operative thrombosis and lung embolism to be partly due to the use of ether, and drew attention to the work of Rabinowitch, of Leeds, which showed that in 80 per cent. of etherised patients there was an increase in the coagulation of the blood—even in cases in which no operation had been performed.

I should like to draw your attention for a few moments to what Dr. Lundy, of the Mayo Clinic, is pleased to call " balanced anæsthesia." Briefly put, this is the non-reliance on any one anæsthetic agent for the total production of surgical anæsthesia —two, three or even four anæsthetic agents being used for this purpose. In this way no one agent is pushed to any extreme, and a more satisfactory, controlled and tranquil anæsthesia results. One agent may be used to secure initial unconsciousness, another to promote muscular relaxation, and a third to secure maintenance of anæsthesia. The primary measure in the balance of anæsthesia is premedication with such drugs as the bromides, morphia, hyoscine hydrobromide, allonal or phanodorm. These drugs, singly or in combination, to suit the individual requirements, will secure diminution or absence of nervous fear and help to produce a sleepy condition suitable for induction of anæsthesia by a second agent.

The next factor in the production of balanced anæsthesia is the introduction of a basal anæsthetic. These basal anæsthetics, so called because they are merely used to create a base in resulting anæsthesia, are now being generally employed. The simplest and most successful of these, in my opinion, is avertin. This I have used during the last three years in upwards of 500 cases, and thus far have had no mortality, and only one case of respiratory depression, which readily yielded to inhalation of carbon dioxide and oxygen and the injection of 1 c.c. of coramine.

The following is a brief description of the properties and methods of administration of avertin.

Avertin—which is a tri-brom-ethyl-alcohol, is a heavy syrupy fluid, which, added to distilled water, forms a solution from 0.08 to 0.1 c.c. of avertin fluid per kilogram of body-weight, according to the needs of the individual case. The solution must be tested prior to injection with Congo red; the presence of hydrobromic acid will turn the reagent blue. The warm solution is run into the rectum through a narrow, lubricated catheter, which should be inserted for a distance of about 4 in.

The injection is given about 30 minutes before operation, consciousness is lost in from 5 to 15 minutes, and narcosis deepens to a maximum in about half an hour. The patient goes to sleep without any signs of excitement or distress, and the experience is described as a pleasant one. Respiration becomes more shallow than normal, the blood pressure drops from 10 to 15 mm. Hg. and the pulse rate increases. Unconsciousness will continue from two to four hours, and a sleepy state for some time longer. The patient can usually be roused after one and a half hours, and may ingest fluid if required; he will then sleep on again. The reflexes of the larynx and trachea are present, and operations about the mouth and jaws can be safely performed.

The conjunctival reflex is absent, but the corneal reflex is usually just present. Bloomfield has pointed out that if the corneal reflex is absent, the patient is not usually in a stage of surgical anæsthesia; he will move and his musculature become rigid if stimulated.

Avertin spares the patient all the anxieties of transportation to the operating theatre and any distress in induction. Upon this basal anæsthesia, small quantities of gas oxygen, ether, or a local anæsthetic are needed to secure maintenance anæsthesia, with a corresponding decrease of post-operative discomfort from nausea or vomiting.

Morphia and hyoscyamus may be used in conjunction with avertin with an increase in its effect. I have abandoned using these because of the further depression of the respiratory centre which they cause.

In the case of undue shallowness of respiration, the inhalation of a mixture of CO_2 7 per cent. and oxygen 93 per cent. seems to be the best remedy.

Avertin is contra-indicated in renal disease, in patients suffering from asthenia or with low blood-pressure, and in those operations which are associated with a rapid fall in blood-pressure.

After avertin sleep has been attained the patient is ready for the introduction of a maintenance anæsthesia. The anæsthetic of choice, in my opinion, is continuous gas and oxygen. The mixture of gases is given through a nasal intra-tracheal catheter attached to a suitable machine. Nitrous oxide gas, when mixed with an ample sufficiency of oxygen from a modern positive pressure apparatus complete with arrangements for fractional rebreathing, may well be described as a physiological method of producing narcosis.

The experiments of Crile have shown that gas and oxygen does not cause pathological changes in the parenchymatous glands, and that animals can actually recover to some extent from fatigue while under its influence.

Clinically, in the presence of adequate oxygenation, there is but little rise of blood pressure, and a gratifying absence of pulmonary and gastric sequelæ. The importance of adequate oxygenation cannot be too much stressed; as the least cyanosis of a prolonged character causes venous congestion, embarrassing to the surgeon, and a toxicity most harmful to the patient. When used solo, gas and oxygen anæsthesia is only possible with expert graduation of oxygen supply, even slight excesses of the gas will cause an embarrassingly light anæsthesia. As a component of balanced anæsthesia, gas and oxygen becomes much less difficult to adminster with success, and percentages from 20 per cent. to as high as 35 per cent. of oxygen are often possible.

A fourth and last factor in the chain of balanced anæsthesia may sometimes be used, and that is the introduction of a local anæsthetic as a barrier to afferent stimuli passing from the operative field to the areas of pain reception in the central nervous system. It is well known that such "noci-ceptive stimuli," as Crile calls them, are one of the chief factors in the production of surgical shock. I had a case with Mr. Doubleday which illustrates the value of the last factor.

The patient was an elderly and apparently edentulous clergyman approaching the age of 80, whose lower jaw was embarrassed by pain from an unsuspected lower unerupted wisdom tooth. The patient was considered too fragile for the employment of a general anæsthetic, and he was much too nervous to consent to the use of a local anæsthetic. In his case we gave a small dose of avertin to secure initial anæsthesia, and then proceeded to gas and oxygen, finally employing a mandibular regional anæsthetic before the operation commenced. All present agreed that the patient was spared much shock by this procedure, and he was enabled to make a complete recovery.

In general surgery the use of a local nerve block in conjunction with general anæsthesia is becoming increasingly common. One of my surgical colleagues at Guy's uses this method as a routine in gall-bladder and gastric operations, and we have been impressed by the shock-sparing effect of this procedure.

In major dental surgery, the method seems to have a limited application, and should be reserved for those cases which are only fair or bad operation risks.

EVIPAN

In conclusion, I will endeavour to give a brief description of evipan, the most recent addition to our choice of anæsthetics.

This is a barbiturate and is the sodium salt of n - methyl-c-c-cyclo - hexamyl-methyl barbituric acid. Evipan has been used in Germany for some little time, records of over 25,000 cases having been collected in that country, and in this series it is satisfactory to note that only one death attributable to evipan has been reported.

The pharmacology of evipan has been worked out most carefully, the experiments being chiefly performed upon cats, dogs and rabbits. The anæsthetic is a non-volatile narcotic and is rapidly detoxicated, probably by a process of oxydation, chiefly in the liver. A rabbit can decompose within 13 minutes half of the narcotic dose. Disturbances of the circulation are seen to be very slight, and in the case of the rabbit the blood pressure falls by only 15 to 20 mm. Hg. This drop in blood pressure is somewhat similar to that which occurs in physiological sleep, and it is notable that the pulse remains both full and regular. An overdose of evipan will produce failure of the respiratory centre, in which case it is interesting to note that the heart continues to beat regularly for a considerable time. It was shown experimentally that death in overdose was always due to failure of respiration. Experiments have shown that metabolism, control of the body heat, and alteration of the alkali reserve are but little affected by the drug. The blood sugar remains unaltered. There is a complete absence of vomiting and nausea. Injection into the subcutaneous tissues of a rabbit causes no irritation.

This I think is important. On one occasion I had the misfortune to inject several cubic centimetres of evipan into the subcutaneous tissues about a small vein which I had accidentally traversed, and there was absolutely no after-effect. Experimentally it was found that any tendency to

failure of the respiratory centre was counteracted by inhalations of carbon dioxide.

Pre-operative Medication.—In my opinion this is not required. The use of morphine or morphine scopolamine seems superfluous. If the operation is taking place in the early morning, there is no reason why a simple hypnotic should not be given overnight to secure a good night's sleep. No special diet is required, but the patient should not have the operation performed immediately after a full meal—at least one to one and a half hours should elapse.

Preparation of the Solution.—Evipan is a white dry powder supplied in ampoules of 1 gram. This is mixed with a second ampoule containing 10.5 c.c. of distilled water. The solution is prepared by mixing 10 c.c. of water with the powder. This mixing is quite simple and the resulting fluid is so thin that it can easily be aspirated through a hypodermic needle into the syringe. It is important to use the fluid as soon after its preparation as possible, as after an interval of an hour it tends to decompose.

Dosage.—The maximum dose is 10 c.c. and the lethal dose is probably in excess of 20 c.c., and so for the average case there is an ample margin of safety. The correct dose of evipan will vary with the individual, like every other drug. In Germany attempts to standardise the dose for individual requirements have been carried out in two clinics. In the surgical clinic at Kiel an attempt has been made to administer evipan in terms of cubic centimetres per kilogram of body-weight. At the University Clinic at Konigsberg Professor Lauber has suggested that a constant rate of injection of 15 seconds per cubic centimetre should be made while the patient counts. When the patient falls asleep, he gives for short operations as much additional evipan as has already been given, and twice as much again for a long operation. That is to say, if the patient falls asleep after $3\frac{1}{2}$ c.c. have been injected, then a further $3\frac{1}{2}$ c.c. will suffice for a short operation; while a total of $10\frac{1}{2}$ c.c. would be required for an operation of long duration. Lauber further recommends that with elderly and feeble patients the induction dose is followed by half as much again; while for longer operations one and a half times the induction dose is added. These attempts at standardising dosage are often associated with error, because of the widely different reactions of various individuals to the drug.

Until one has acquired sufficient experience to judge the dose from one's own clinical observation, I think it is best to follow the method recommended by Lauber and to give the doses he recommends. The average time of induction is usually between 50 and 60 seconds, and in my experience the average dose varies between 5 and 7 c.c. At the end of induction, and with the onset of anæsthesia, twitching of the muscles sometimes occurs. This is probably due to either too slow or too rapid an injection of the drug.

Technique of Injection.—The syringe and needle should be sterilised by boiling and then washed out with ether or absolute alcohol, followed by a little distilled water. The median cephalic vein is the usual site for injection and a tourniquet, consisting preferably of the cushion of a blood-pressure apparatus, should envelop the upper arm in order to congest this vein. The skin is sterilised with alcohol or iodine and a puncture with a thin needle is easily made. As soon as blood is seen to leak back into the glass barrel of the syringe the tourniquet is released and evipan is slowly administered, 1 c.c. being given during each 15 seconds of the first minute; subsequently 1 c.c. may be injected for each 10-seconds' interval.

Narcosis is usually heralded by yawning, the jaw muscles lose their tone, and the tongue tends to slip back. This last will obstruct respiration, and so the airway must be watched.

The depth of anæsthesia varies a good deal. In some cases there is complete relaxation of muscle, with absent corneal reflex and full surgical anæsthesia. In other cases the muscles are imperfectly relaxed and a certain amount of reaction to stimuli is observed throughout the whole anæsthesia. In any case, the patient is completely unconscious and, as a general rule, the anæsthesia is tranquil and is very similar to that produced by the gas-oxygen method.

Contra-indications.—Hepatic insufficiency seems to be almost the only contra-indication. As mentioned already, the solution is detoxicated by the liver, and in cases of extensive liver damage this process would necessarily be delayed. In my experience fair to bad operation risks take this anæsthetic well, but very bad operations risks should not be subjected to this anæsthetic. The Medical Research Council in their report upon evipan mention the value of the anæsthetic in the case of persons gravely ill, for whom a short anæsthetic is desired, and give details of cases. One of these was a man aged 36 extremely ill with empyema after pneumonia, who was regarded as unfit for a general anæsthetic. Nevertheless, it was decided to use evipan, of which 10 c.c. were injected. Anæsthesia was good, and the operation, rib resection, was completed without accident. The patient was fully awake after three-quarters of an hour and suffered no after-effects.

The Surgical Clinic in Kiel suggests that 30 to 50 per cent. of the usual dose should be deducted

in the case of obese, anæmic, septic, feverish, cachectic and all seriously ill patients. The makers also emphasise caution to be specially necessary in peritonitis, ileus, eclampsia, diseases of the central nervous system, widespread cancer and severe general disturbances of metabliosm.

Indications.—The makers claim that evipan is indicated wherever a short, full anæsthesia is required in any branch of surgery.

The anæsthetic has been given a thorough clinical trial by the Anæsthetics Committee of the Medical Research Council, and their report, which was a favourable one, was issued as recently as last July. Since the issue of the report, I have used evipan regularly in my private and hospital practice, and have formed a high opinion of its efficiency as an anæsthetic, and its safety as a drug. Being convinced of the use of evipan when its choice has been indicated in preference to other available anæsthetics, I have noted with surprise the limited extent of its application.

I think in the case of a new anæsthetic one has to regard with suspicion and possibly with apprehension the enthusiast who wishes to use the drug on each and every case. There is no anæsthetic which is universally applicable, and slowly but surely each new anæsthetic recedes into the place reserved for its special indications. I think this is what is now happening to evipan, it admirably fulfils the role of a short, complete anæsthetic, giving during its brief existence of 10 to 20 minutes full surgical anæsthesia and muscular relaxation. And that is after all the claim the makers advanced for its use; it has been left to enthusiasts to endeavour to make evipan do more than it should, and along that path, in my opinion, lies the only danger in the use of this anæsthetic. Some workers have, by giving preliminary doses of morphia and scopolamine, endeavoured to extend the scope of the anæsthetic by increasing the time and depth of its action. This is only done at the expense of the margin of safety, for the respiratory centre is depressed thereby, and almost the only risk of this anæsthetic is accentuated. If a longer time is needed than given by evipan alone, surely it is more logical to give a basal anæsthetic, such as avertin combined with gas, oxygen or a minimal amount of ether.

In an emergency when an operation lasts longer than anticipated, the anæsthetic may be prolonged by an additional dose of evipan or by the superimposition of a general anæsthetic such as gas oxygen or a minimal dose of ether. I have notes of two cases in which one employed these methods.

CASE 1.—A second dose of evipan.

Mrs. A., aged 53, in Martha Ward, Guy's Hospital. This woman on the sixth day following removal of carcinoma mammæ by the diathermy knife, burst the stitches of her extensive wound. She had had her lunch about an hour previously and was in a somewhat septic and exhausted condition. The surgeon in charge wished to perform the minor operation of re-suturing the wound, which he said would take him about 15 minutes.

The case seemed an ideal one for evipan, and I proceeded to give 5½ c.c. of the drug. An excellent anæsthesia lasted for 18 minutes, then, as the patient was beginning to recover, I gave another 3 c.c., and this secured a further 15 minutes' anæsthesia, during which time the surgeon completed the operation. Recovery was uneventful, there was no sickness, and the patient, after a good sleep, had her evening meal as usual.

CASE 2.—Evipan with gas-oxygen sequence.

Mrs. B., aged 62, in Queen Ward, Guy's Hospital, suffering from both rectal and uterine prolapse. This patient was blind, had had a number of previous operations; she was frightened of them and particularly of anæsthetics by the open method. Avertin was out of the question on account of the rectal prolapse and lack of tone of the rectal sphincter, apart from the risk of septic contamination of the operation site.

Eight c.c. of evipan gave a good and peaceful induction of anæsthesia. In the twelfth minute I commenced gas and oxygen, and continued with this anæsthetic during the next hour and a quarter. The change over from evipan to gas-oxygen was hardly noticeable, chiefly, I believe, because it was made in good time. In a previous case one had left the carry over too late, and there was an embarrassing amount of struggling, the operation of tonsillectomy being held up while the patient was reinduced with ether.

EVIPAN FOR DENTAL CASES

When giving evipan for dental cases the question always arises as to whether the operation should be carried out in the dental chair at the dental surgeon's house or not. Both patient and operator are often in favour of this course, and they are influenced by such factors as time, convenience and economy. Provided that the patient is healthy and sound, and the operation is not to exceed a period of 15 minutes, I see no objection to this practice.

Recovery from evipan is speedy and happily free from after-effects, but I think even the most healthy individuals should be kept for at least an hour or more before they are driven home.

I think that in healthy people it is not the after-effects of the anæsthetic which need worry us so much as the surgical shock engendered by pro-

longed operation in the dental chair. If the patient is not in good health, this practice, in my opinion, is decidedly contra-indicated.

During the last half-century in which surgical operations have been performed under general anæsthetics, the effects of surgical trauma and shock have been recognised, and their treatment has been generally agreed to consist mainly of post-operative rest, warmth and fluids. I hold that if you carry out an extensive operation—dental, or in any other branch of surgery—the proper place for that patient after the operation is bed, and not a journey home, possibly in inclement weather.

If we use evipan to perform operations which should be done in a nursing home, I think we are making a retrograde step, which in the long run will cause accidents and a regrettable publicity for an anæsthetic which is an excellent one so long as it is kept rigidly for the use of limited operative procedures.

DETAILS OF THREE DENTAL CASES

I will give details of three dental cases in my private practice, which were performed in the dental chair.

CASE 1.—The first of these was a young lady much addicted to chain cigarette smoking and cocktail drinking, organically sound, but a very bad subject for gas-oxygen anæsthesia. The operation was for an impacted wisdom tooth, which the dental surgeon was confident of removing in about ten minutes by the "Winter" method. The case was unusual, because the whole 10 c.c. in the syringe had to be used before narcosis was induced. The operation took about 12 minutes, and the patient became conscious after 16 minutes. Recovery was unusually rapid, and the patient expressed a desire to return home as soon as possible.

We kept her under observation for an hour and a half in view of the large dose given, and during that time she was given a cup of hot coffee to drink, and was made to rest on a couch covered with a rug. She was driven home subsequently, had no after-effects, and expressed her gratitude for the anæsthetic.

CASE 2.—This case, a lady of about 30, was a provoking one. The operation to be essayed was an apicectomy of a lateral dead incisor tooth in a dentition which was otherwise perfect. In this case the nose-piece of the gas and oxygen apparatus would have pressed upon the operation site at the apex of the tooth, and for this reason we chose to give evipan. But to our chagrin the patient had no visible superficial veins, a diligent search was made in both upper and lower limbs, and three punctures were made hopefully but without success.

This lady was admitted into a nursing home on the following day, and the operation was successfully carried out with avertin plus intratracheal nitrous oxide gas and oxygen.

Such a case as this must indeed be rare. On another occasion I had to use a superficial vein on the radial side of the wrist because the ante-cubital fossæ were loaded with superficial fat, and identification of the veins difficult in that situation.

CASE 3.—This was a lady aged 40, rather adipose, but organically sound, requiring the removal of three teeth. She gave a history of violent struggling under gas, and had suffered from hysteria during adolescence. Six c.c. of evipan gave a quiet and tranquil anæsthesia, which enabled the operation to be carried out in comfort. After the usual rest of an hour or so, she was able to return home, and gave no history of any bad after-effects.

CONCLUSION

For the great majority of dental operations in the dental chair, I still consider continuous gas and oxygen to be the first choice. The quick recovery and almost complete absence of danger of this anæsthetic are too well known to require repetition. But in those cases which are known to take gas and oxygen badly, evipan is a convenient alternative. Again, in those operations which are deemed just a little too long for gas and oxygen, and yet do not merit a complete general anæsthesia, evipan is a very useful choice of anæsthetic.

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The Diagnosis and Treatment of Staphylococcal Infection of Bone

TREASURER'S PRIZE ESSAY

By R. S. Ellis-Brown, Esq.

(*concluded*)

Subsequent Treatment.—The periosteomyelitis now passes into the chronic stage, so that it is important to eliminate the toxin and to maintain and improve the general strength of the patient. As the sequestrum is separating, there continues an irregular temperature and rapid pulse rate associated with general wasting and progressive anæmia. A nutritious and easily assimilable diet is prescribed, which should include glucose, milk, eggs and fresh fruit, with vitamin A preparations and 150 to 200 ounces of fluids daily. Iron is prescribed in the form of Ferri et Ammon. Cit. or Ferri Carbonas Saccharatus. Headaches, sleeplessness, delirium and diarrhœa are treated when they arise. Fresh air and sunshine are of great value.

Non-specific protein therapy with normal horse serum may be employed to diminish the sepsis. If doubt exists as to the presence of anaphylaxis, .5 c.c. is first given hypodermically, followed five or six hours later by 5 c.c. The serum is given once daily for ten days, the dose rapidly increasing until 50 c.c. are given. After this the injection is stopped in view of the sensitisation that develops.

In fortunate cases treated early the bone may survive and the openings made at operation become filled with granulations. In those cases in which the bone has been excavated, secondary suture shortens convalescence. The wound must be sterile before this is attempted. By employing irrigations with antiseptics such as hydrogen peroxide and encol every four hours, the part is rendered sterile in about four weeks. A periodical estimation should be made of the number of bacteria on the wound surface, by counting the bacteria on a platinum loopful of surface serum stained on a slide. The entire wound surface is not closed; a space one inch long is left for drainage. Strong silkworm gut threaded on capillary rubber tubing is used. Reconstitution of the bone and the natural separation of small sequestra into the dressings occur in cases in which a simple periosteal incision has been sufficient. Often, however, the whole or part of the shaft necroses, forming a sequestrum and an involucrum is laid down. The bone is enlarged and the surrounding soft parts are thickened and frequently riddled with many large sinuses, lined by dirty granulation tissue, discharging foul pus and leading down through cloacæ to the separating sequestrum. An X-ray negative shows the subperiosteal involucrum as a structure irregular in density, showing areas of destruction and sclerosis similar to the underlying shaft. One or more sequestra appear as unattached, circumscribed, structureless, clearer opacities separated from the involucrum by a narrow strip of rarefied portion. The rest of the shaft shows irregular rarefaction. Unless the sequestrum is removed by a further operation, it will remain for years a source of foul, persistent discharge. This operation is not to be deferred until the sequestrum has completely separated, for a strong osseous involucrum will have developed and the granulation-lined cavity in its interior will persist indefinitely. The aim is to remove the sequestrum when the limits of necrosis are well marked, although actual separation has not occurred and while the subperiosteal involucrum is only partially and not rigidly ossified. The optimum time is six to nine weeks after the first operation. Following sequestrectomy in the seventh or eighth week, the cavity from which the sequestrum is removed, if not large, is completely filled with bone and a cure results.

The operation is performed as follows: Under general anæsthesia, an incision is made down to the brown, necrotic bone, which, when tapped with the scalpel, gives a sharp, dead note as compared with the ringing note of healthy bone. The periosteum is gently turned aside with a sharp elevator, which will lift with it osteoblasts from the outer layer of bone. The sequestrum is removed by chiselling through normal bone just beyond it and is removed after dividing into two halves if necessary. The periosteum falls back, the wound is partly closed and a plaster cast is applied. New subperiosteal bone fills the space, functionally reconstituting the limb in six to nine months.

When sequestrectomy is delayed until the involucrum is dense and regenerative faculties are reduced, the removal of the now separated sequestrum leaves a persistent, foul, central cavity walled in by dense involucrum and closed at either end by a compact osseous plug. There are many ways of obliterating such a cavity. 1. The cavity is

packed with gauze, which is changed daily. It granulates from the bottom, and the granulation tissue is ultimately converted into bone. This is the most satisfactory method in the majority of cases, but the course is long and painful. 2. The central cavity is made sterile with antiseptics and the osseous plug at each end is broken down, filling the cavity with blood, which will organise and become ossified. The danger of this method is that if any infection is still present, necrosis of fresh marrow occurs. 3. Neuber's plan is to remove the whole length of one bony wall of the cavity and to turn in the overlying skin flaps so that they adhere to the bone. This, however, does not reconstitute or strengthen the bone. 4. After sequestrectomy, the cavity is cleansed with flavine and B.I.P.P. for a week and then the cavity is filled with a pedunculated muscle flap cut from a neighbouring muscle. The tissues are then entered and the limb splinted. 5. When regeneration entirely fails, leaving a flail-like limb, the defect can be remedied by an orthopædic operation. The bone is reconstituted by a bone graft taken from the opposite limb and implanted subperiosteally into a sterile cavity.

While the above has been a description of the diagnosis and treatment of a staphylococcal infection of a long bone, it can be applied to infection of any bone with certain regional considerations, which will now be described in order of frequency of occurrence of infection.

Tibia

The ankle joint frequently suppurates when the lower end is involved. When opening the joint the incision must be made down the medial side, so that the tendon sheaths will not be opened and infected.

Femur

When the lower end is involved, there is a tendency for the subperiosteal effusion of pus to remain deep-seated and superficial inflammation is late in appearing. The part is approached by an incision along the outer side, anterior to the biceps femoris tendon and along the posterior edge of the ilio-tibial band. It is important not to extend the incision as far down as to open into the knee joint. Post-operative complications in the form of secondary hæmorrhage and septic arthritis of the knee joint are liable to appear here.

CASE 1.—A well-built boy of 16 years was taken ill four days previously with upper abdominal pain aggravated by breathing. He had a high fever, looked gravely ill, was breathing fast, and there were signs of a right basal pleurisy. On the previous night he had also developed great pain in the lower portion of the right femur. The thigh was swollen here and very tender. The knee joint was not involved. Operation was performed for osteomyelitis of the femur. Blood-culture grew staphylococcus aureus. For many weeks he was very ill. He developed many lung abscesses with bright hæmoptyses. Fluid aspirated from the left pleural sac grew staphylococcus aureus. Eventually he made a good recovery and was re-admitted for sequestrectomy. In the early stages he was given mercurochrome and vaccines, without the slightest evidence of any good effect on his symptoms or pyrexial curve. (Case reported by Ryle in *Guy's Hospital Reports*, 1930, page 142.)

Humerus

When the lower end is involved, septic arthritis of the elbow may have to be treated as well. The bone is exposed in this part by a mid-posterior incision splitting the triceps brachii muscle. The upper half of the bone is exposed by an incision along the course of the cephalic vein.

Radius and Ulna

Here again neighbouring joints are often involved. The ulna is exposed by an incision along its subcutaneous border and the radius, by an incision along a line from the posterior surface of the head to the styloid process; the intermuscular septum between the supinator and the extensors being opened into.

Fibula

When approaching inflamed bone, the incision is made along the posterior peroneal septum, between the peroneus longus and brevis and the soleus and flexor hallucis longus.

Pelvis

When the metaphysis along the iliac crest is affected, the ilium is exposed by an incision and the bone is trephined down to the subperiosteal effusion of pus usually present on the inner surface of the bone.

CASE 2.—A tall, pale schoolboy of 15 had a mild attack of influenza lasting four days. A fortnight later he thought he was hit with a hockey ball on the top of the left ilium. No bony damage. Three days later he was admitted to the sanatorium with a temperature of 103° and pulse rate of 90 with slight sore throat and headache. There was a trace of albumen in the urine. He walked badly and was exquisitely tender over an area the size of a halfpenny on the top of the left ilium. No redness or œdema. Next day the tenderness was less definite, but more diffuse and his thoughts were wandering. The sacro-iliac joint was tender. Blood-count showed 24,200 leucocytes per c.mm., 88 per cent. polymorphs. Acute osteomyelitis of the ilium was diagnosed. At operation 1½ ounces of thin pus under tension was let out from under

the periosteum of the ilium. Culture gave a pure growth of staphylococcus albus. Six days later he was much better and no longer delirious. The following day he was tender over the opposite ilium, and his temperature and pulse began to rise. The next day he was tender over the lower end of the fibula, but there was no pain. This was explored and the periosteum was found raised by a collection of serum, but no pus and there was bare bone beneath. Culture grew pure staphylococcus albus. Blood count showed 32,000 leucocytes per c.mm. After a week the wounds were healthy, but dead bone could be felt easily at the bottom of both. Then his temperature and pulse again rose as he developed a lung abscess, and there was dullness and crackling râles at the apex of the right lung anteriorly. Sputum gave an almost pure growth of staphylococcus albus. After ten days these signs cleared up. He made a slow and tedious recovery. His ankle was completely healed after four months, but six months later two minor abscesses on his fibula were opened and a small piece of bone removed. At the same time a sequestrum, the size of a pea, was removed from the ilium. The opening over the ilium healed, but a sinus is still present over the fibula (August, 1933), seven months after operation.

Ribs

Infection is well illustrated in the following case.

CASE 3.—A healthy boy of 13 had an illness with fever lasting four weeks. His breast was swollen and a diagnosis of acute mastitis was made. He was then X-rayed, and the end of the 5th rib was fluffy with the 4th and 5th costo-chondral junction tender to pressure. Two years later he had an attack of influenza and, while convalescing a fortnight later, he noticed that the breast was again swollen. He had no constitutional signs, but there was a definite swelling over the lower end of the 5th rib. X-ray showed that the end was expanded and there was a cavity in it with smooth walls. Diagnosis of single myeloma or tuberculous caries made. Two months later he was again examined and a chronic inflammatory lesion due to a low-grade septic infection was diagnosed. The section of the rib was removed. Lying in the cavity was fibrous granulation tissue and several drops of pus, which on culture grew a few colonies of staphylococcus aureus in pure growth. The wound healed and a year later the chest seemed as sound as ever it was. (Above two cases reported by R. E. Smith, Medical Officer, Rugby School, in *Clinical Journal*, 1933, pages 335-7.)

Scapula

The metaphysis of the vertebral border is most commonly the site of infection. Movements involving the scapula are painful and there are local signs of acute inflammation. A vertical incision is made parallel to the vertebral column. Pus tends to accumulate on the costal aspect, between the subscapularis and the bone.

Vertebral Column

Occurs during the period of growth (5-15 years). The site of infection usually lies in the transverse processes or the neural arches. When involving a lumbar vertebra, pus may collect in the sacro-spinalis sheath and track up and down, causing symptoms and signs of suppuration in the muscle of that side. If the disease starts in a vertebral body, it may strip up the periosteum on the front of the vertebra and take a course similar to that found in tuberculous infections, so that a psoas, lumbar, mediastinal or retropharungeal abscess forms, which must be treated accordingly. When a vertebral process is diseased, the abscess presents behind. In both it may spread to the spinal canal, producing an extra-dural abscess compressing the cord and a septic meningitis supervenes. Necrosis of the bone occurs if the patient survives.

The constitutional symptoms are usually so marked that the localising signs are masked. Diagnosis is further made difficult by the inaccessibility of the bodies. Infection of a lumbar vertebra may be mistaken for abdominal disease; the only sign suggesting vertebral origin may be contraction of the psoas muscle. Invasion of the spinal canal may give rise to meningitis. In these circumstances, the general toxæmia with rigidity of the spine and pain in the distribution of the nerve roots presents a very fair picture of a primary acute meningitis, though localisation of the pain and symptoms will lead to a correct diagnosis, especially if there is local tenderness. If there is a subdural abscess posterior to the cord, there will be aching root pains and hyperæsthesia along the course of the posterior nerve roots compressed. If the extra-dural abscess is anterior, root pain will be absent and a lower motor neurone type of paralysis of the muscles supplied by the nerves at the site of the abscess will result. Signs of paralysis and anæsthesia below the level of the abscess will vary according to the site and size of the abscess.

Treatment consists in opening up the site of infection, opening abscesses freely and exposing dead bone. In the case of infection of laminæ or processes, the bare bone is removed to prevent sequestrum formation and to allow free drainage. The bodies are difficult to expose; in the cervical region an incision behind the sterno-mastoid is made; in the thoracic region a costo-transversectomy is performed. The vertebral end of the rib and the transverse process are removed. Mediastinal abscesses are best drained by this method:

In the lumbar region an incision at the outer border of the sacrospinalis is made. The spine must be supported during convalescence by having the back arched over a firm pillow or in a plaster jacket.

Skull

Infection of the bones of the cranium or face as a blood-stream infection is very rare and of great severity. The frontal and parietal bones are the usual sites, so that symptoms of meningitis and cerebral œdema or cerebral compression from extra-dural abscess may complicate the picture. The prognosis is bad unless the case is diagnosed before meningeal symptoms are prominent. In an early case, the general symptoms of toxæmia are marked. Locally there is an area of the scalp red, swollen and intensely painful. An infected scalp wound with penetration of the pericranium or a cephalhæmatome may become an acute suppurative periostitis. The streptococcus is the organism most frequently found, but occasionally the staphylococcus is cultivated. The scalp wound is usually small and heals rapidly, even while the bone lesion is developing. The part then becomes red, painful, tender and swollen.

There are associated signs of toxæmia, including rise of temperature and exposure of the bone shows it to be avascular, yellow, dead tissue. If drainage is established early, slight superficial bony necrosis only will result. If it is delayed, penetrating infection of the bone is apt to occur with intra-cranial complications, and treatment must be energetic. The seat of the disease must be freely exposed by incisions and all bone showing typical white or yellow bloodless appearance or containing pus freely cut away. It is rarely enough to remove the outer table alone; the whole thickness should be removed by trephining at some part if it is dead, so that the possibility of an extra-dural abscess can be excluded, and, if present, drained. After drainage a sinus forms, leading down to the sequestrum. Sequestrectomy is performed at a later date. The occurrence of necrosis is recognised by an area of bone remaining uncovered by granulations and of a dead-white colour.

TREATMENT OF POST-OPERATIVE COMPLICATIONS

Secondary Hæmorrhage

Frequent in infection of the lower end of the femur due to the proximity of the highest genicular artery. It is necessary to open the wound and secure the bleeding point.

Cellulitis

Responds to local treatment with antiseptics and heat.

Septic Arthritis

Treated as described above.

Pyæmia

Sometimes complicates the disease, especially after hammering or rough handling of the limb. It may manifest itself in other bones or joints and subcutaneous tissues, and the secondary abscesses so caused may be easily overlooked because the local symptoms are slight compared with those of the primary lesion and toxæmia on the patient. These must be treated by incision, drainage, and antiseptic dressings. Joints must be opened, washed out gently with saline or flavine, and closed, as continuous drains lead to secondary infection and chronic sepsis. The joint is immobilised while painful, but active movements are encouraged at the earliest moment.

Suppuration in a serous cavity, *e.g.*, empyema, must be treated as if it were a primary condition.

ACUTE PERIOSTITIS AND OSTEOMYELITIS OF ADULTS

The clinical picture when the epiphyses have united is only varied in that the staphylococcus attacks any part of the shaft, and that septic arthritis is more likely to complicate the picture. Traumatic subperiosteal hæmatomata may become infected, giving rise to acute suppurative periostitis. The differential diagnosis is considered along the same lines as described under the juvenile disease. In acute gonorrhœal arthritis the onset is sudden, intense pain appears in a joint, and there may even be a history of trauma. This is a history of a yellow urethral discharge. On examination, pain, redness and swelling are localised around the joint, which is primarily involved, and urethral discharge may or may not be present.

Treatment is given according to the considerations described under the juvenile disease. Patients in whom the primary attack occurred in late youth or early adult life are prone to relapses. Months or years after an apparent cure the condition lights up again, and on opening the part under general anæsthesia small superficial sequestra are often found. These must be removed and antiseptic dressings applied, the wound being left open to allow drainage of pus. Recurrences are apt to occur several times, but each time in diminished severity.

SUBACUTE INFLAMMATION OF BONE

Subacute Periosteomyelitis; Osteomyelitis Serosa.

The staphylococcus provoking the reaction of this type is either the aureus variety with attenuated virulence or the albus variety. It is a rare form of infection, attacking children more often than adults, and the femur and tibia rather than other bones.

Diagnosis.—The history of such a case may reveal the fact that the tender part received a direct blow a day or two previously and the tenderness produced did not subside, but rather became more severe, the bruised part becoming more swollen. Whether there was trauma or not, there is present an aching pain, of sudden onset, subject to acute exacerbations from time to time. It is during one of these attacks that the patient may seek treatment. The pain is increased when the limb is warm in bed, when dependent, or when directly compressed. On clinical examination, general toxic symptoms are not prominent; the temperature and pulse rate are only slightly raised. It is the local signs that are well developed. If the bone is subcutaneous, a tense, tender, brawny swelling is seen in the early stages, followed in a few days by the skin around becoming inflamed and œdematous, and the swelling softens centrally. If the bone is deeply placed, there is local tenderness, and œdema of the overlying tissue is a prominent sign. There is a subperiosteal effusion of serum.

Treatment.—The condition may pursue one of four courses and treatment must be given accordingly. In the early stages, the patient must rest in bed, with the limb splinted and elevated. Dry heat is applied by an electric cradle and further progress judged by the general condition, the temperature and by X-rays. A white-cell count will be of value to determine the presence of suppuration. 1. The condition may resolve completely. 2. The inflammation may become chronic, leaving much nodular or diffuse thickening due to new subperiosteal bone formation. Much of this will disappear after prolonged internal administration of potassium iodide, with the application of massage and counter-irritants locally. 3. The part suppurates leading to the typical picture of acute suppurative periosteomyelitis. This is the only indication for immediate operation. The part must be incised and the pus evacuated and given free drainage. Necrotic flakes of bone may come away and the part heal completely, or a sequestrum with discharging sinuses may form, necessitating sequestrectomy. 4. The tissue reaction is such that the infection is shut off in the bone, so that a localised abscess results, surrounded by sclerosed bone. The condition is diagnosed and treated as described below.

CHRONIC INFLAMMATION OF BONE

Chronic Periosteomyelitis

In this condition a staphylococcus aureus or albus can sometimes be grown from chips of bone removed at operation. This disease is also rare.

Diagnosis.—There is no history of trauma or sudden onset of inflammatory disease. The patient, usually aged 10 to 20 years, complains of a constant dull ache in the affected bone—usually the femur, tibia or humerus. On examination, new nodular subperiosteal bone may be felt around a thickened shaft, or a diffuse fusiform thickening of the shaft may be found. On X-ray examination, the shaft is dense and homogeneous, showing new endosteal and periosteal bone formation. This is differentiated from the appearance seen in osteogenic sarcoma by the facts that in the latter the shadow is of unequal density, shows some apparent lacunæ, and "rays" of bone are seen beneath the periosteum at right angles to the surface.

Treatment.—An exploratory incision is made over the thickest part and the bone gouged to form a long gutter, penetrating short of the medullary cavity. The wound is then entered and the limb placed in simple splints or plaster for a month.

LOCALISED ABSCESS OF BONE

Brodie's Abscess

Not infrequently the staphylococcus aureus or albus leads to the formation of an abscess within a bone. The virulence of the attacking organism and the resisting and isolating powers of the bone are so nearly balanced that the infective process, instead of causing a definite osteomyelitis, gives rise to a large, deep abscess amidst dense, cancellous tissue near the epiphysial line. The commonest sites, in order of frequency, are either end of the tibia, the lower end of the femur, and the upper end of the humerus.

Diagnosis.—The patient, usually an adolescent, complains of aching or boring pain in the end of a long bone, which, if in the leg, causes limping. After use the pain is worse, and the adjacent joint becomes swollen with a serous effusion. Warmth leads to local congestion and pain. There is often a history of recurrent attacks of severe pain with localised tenderness, fever and constitutional disturbance, described as attacks of "rheumatism in the bone." There may be a history of subacute periosteomyelitis which did not suppurate at once, but rather continued painful and inflamed over

a period of months, leading to gradual thickening of the end of the shaft and formation of an abscess in the bone, which gave rise later to attacks of pain.

When the patient comes up during an exacerbation of a Brodie's abscess, the part is swollen and may appear inflamed and œdematous, the muscles of the limb are flabby, atonic and slightly wasted. The affected area of shaft presents a hard fusiform thickening, and on percussion a localised spot of great tenderness can be elicited where pus lies nearest to the surface. If the abscess has burst out from the bone, an acute septic arthritis or a subperiosteal abscess may be found.

Differential Diagnosis.—Clinically, the condition may closely resemble a periosteal or endosteal bone sarcoma or a myeloma, in which condition there is often a very similar history, including swelling of the neighbouring joint and slightly raised temperature (99°). An X-ray differentiates these conditions with certainty. Clinically the periosteal sarcoma appears as a prominent swelling on one side of the bone, which is soft and vascular. X-ray shows a diffuse mass chiefly outside the bone, which is rarefied. Then endosteal sarcoma and myeloma show a fusiform expansion of the bone, with possibly egg-shell crackling and softening over several areas. X-ray shows in the former thinning of compact bone with an irregular inner surface around a large rarefied area, where the cancellous bone is destroyed; and in the latter the tumour appears as a clear area in the expanded and rarefied bone, across which trabeculæ of fibrous tissue are seen passing.

A chronic abscess having been diagnosed, it must be ascertained if of staphylococcal, tuberculous or syphilitic origin. The X-ray appearance is of great value. A tuberculous abscess is surrounded by very little sclerosis, if any, of bone; there is no thickening of the end of the shaft, and the rest of the shaft often appears rarefied. A syphilitic abscess (gumma) is situated in a densely sclerosed area of bone which is widely disseminated and shows no Haversian canals. The Wassermann reaction will be positive. The staphylococcal abscess represents the mean between these two extremes. The end of the shaft is widened and a circular rarefied area, representing the abcesss, is seen in this part of the shaft, surrounded by sclerosed bone showing the Haversian canals intact. A sequestrum may be seen in the abscess cavity.

Treatment.—Operation is advisable as soon as possible after the diagnosis is made. The soft tissues are incised down to the bone and the periosteum is stripped from the bone, which is gouged or trephined until the cavity of the abscess is freely laid open. The pus, with a possible sequestrum, is curetted out and the cavity swabbed with hydrogen peroxide followed by B.I.P.P., or with pure carbolic acid. The wound is then closed and usually heals by first intention. The limb is encased in plaster, leaving a window where the incision was made. After six weeks, the plaster is removed, massage is given to the muscles, followed by exercises and normal use of the limb. An X-ray will reveal if the bone has regenerated and rendered the bone stable and capable of normal function without fracture.

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Massie.—Surgical Anatomy, pp. 138, 369.
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If

(With apologies to Rudyard Kipling)

IF you can wallow in the piscine dog
And probe the secrets of the embryo chick,
Pin out the oozy entrails of the frog
And afterwards have lunch and not be sick;
Make slides of non-dehiscent monocots
And fungiform excrescences to boot;
Ignore the gibes of botanising swats,
And still ask why a vegetable's a fruit;

If you can mess about with Stress and Strain
And disentangle ergs from milliamps,
Connect a Daniel's cell up to the main,
Yet not give up and start collecting stamps;
Remember Newton made a lot of laws,
And molecules can have a double bond,
Forbear to pinch peroxide from the stores
Because your sister wants to be a blonde;

If you can wield a scalpel with a verve
And tie the severed artery with hair;
Then, having cut the great sciatic nerve,
Yet swear the beastly thing was never there;
Make accurate estimations of urea,
And graph the beating heart and muscle-jerk,
And yet find time to have a glass of beer
While Baker makes the apparatus work;

If you can diagnose appendix right,
Though Registrars may tell you that you're wrong,
And when the knife reveals a lily-white,
Disdain to say you knew it all along;
Take stitches out of babies with cleft palate,
And hold them while nurse feeds 'em with a spoon;
Translate reports of Doctors Worth and Hallett,
And do a front on Sunday afternoon;

If you can write reports without a trace
Of having spent the night in Marlborough Street,
Contend with your physician on each case,
And follow him with mind as well as feet;
Arrive at nine o'clock, or just before,
To carry out the fractional test-meal,
And, knowing there's no round from two to four,
Yet shun the glitt'ring offer of a spiel;

If you can suffer the incessant howl
Of psychopathic women with no cause,
And, finding nought in pelvis or in bowel,
Conveniently call it menopause;
Allay the tortured pangs of gravid girls
And pacify the heaving multip. eight;
Replace the prolapsed cord as it unfurls,
And not just yank it out because it's late;

If you can do this, and count the score,
And win the final races, every one,
You'll soon forget it all, but, what is more,
You'll be a great big doctor then, my son.

W. S. N.

Reviews

Abscess of the Brain—Its Pathology, Diagnosis and Treatment. By E. MILES ATKINSON, F.R.C.S. Published by Medical Publications, Ltd. Pp. 289. *Price* 21*s.*

THIS exhaustive treatise is based on the Jacksonian Prize Essay for 1926, which was written by the author. At the end of the book is a list of cases, which testify to a considerable personal experience.

The Pathology section indicates the rationale of diagnosis and treatment, and gives some novel ideas. Mr. Atkinson rightly stresses the importance of early exploration of the brain, a view which is by no means universally held, and which he holds with more conviction as he gains experience. Operative technique is concisely expressed. The book is dogmatic, and many otologists will disagree with some of the details, but, what is more important, they will pick up many useful hints. The Final Fellowship candidate should read it with care, and we unhesitatingly recommend it to all whose work takes them inside the skull.

Modern Treatment in General Practice. Edited by C. P. G. WAKELEY, F.R.C.S. Published by *The Medical Press and Circular.* Pp. 426. *Price* 10*s.* 6*d.*

THIS is a collection of short articles which have appeared in *The Medical Press and Circular.* They are written "for the general practitioner by the specialist," and set forth the latest lines of treatment in various branches of medicine. Only the commoner conditions are included, and controversial matter is omitted, so that the busy doctor can quickly revise the treatment of a condition in which he has become rusty. The success of the articles when they appeared in the journal speaks for the excellence and utility of the symposium. The articles on pelvic floor prolapse and methods of access to the brain are out of the sphere of the average practitioner. The print is clear and the price moderate.

Correspondence

A Stern Lover

To the Editor of the GAZETTE

SIR,—I came across the enclosed magazine or newspaper "cutting" the other day in a desk which belonged to my mother. It has probably been lying there for 30 or 40 years.

Yours, etc.,

R. C. MORGAN.

The cutting referred to—

"A STERN LOVER

"Guy, the founder of that noble edifice which bears his name, was a bookseller in Stock's Market, between Cornhill and Lombard Street. He had a maid-servant, whom he agreed to marry, and, preparatory to his nuptials, he had ordered the pavement before his door to be mended as far as a particular stone, which he marked. While her master was out, the maid, who was innocently looking on the paviors at work, saw a broken place which they had not repaired, and mentioned it to them; but they told her that Mr. Guy had directed them not to go so far.

"'Well,' says she, 'do you mend it; tell him I bade you, and I know he will not be angry.'

"It happened, however, that the poor girl had presumed too much on her influence on her wary lover, for Guy, enraged to find his orders interfered with, renounced the matrimonial scheme, and resolved upon perpetuating his name by building a hospital.

"This man was so complete a pattern of economy that the celebrated Vulture Hopkins once called upon him to have a lesson in the art of saving.

"Being introduced into the parlour Guy, not knowing his visitor, lighted a rushlight; but when Hopkins said, 'Sir, I always thought myself perfect in the art of getting and husbanding money, but being informed that you far exceed me, I have taken the liberty of waiting upon you to be satisfied on this subject.'

"Guy replied, 'If that is all your business, we can as well talk it over in the dark,' and immediately put out the light.

"This was evidence sufficient for Hopkins, who acknowledged Guy to be his master, and took his leave."

"Take-In" Room Rent

To the Editor of the GAZETTE

SIR,—In the course of his arduous apprenticeship in the wards, the student will, sooner or later, be involved in the process of the gynæcological "take-in." The phrase is strangely appropriate, for while he forms, albeit in a humble way, an integral part of the mechanism of the hospital, and is no mere ornament, while he is forced by the statutes of the examinations for which he has to compete to take-in at least once, nevertheless he has to pay for the privilege.

If one sets aside the question as to whether the sum paid for the rent of his room in the College for that week is commensurate with the benefit he receives, one is still left to consider the point as to why he should pay for the room at all? Somebody must take-in, and that is as much as to say that the room cannot be used by anybody else. If it is already there, and cannot be put to any other purpose, it seems extortionate that the College should extract money from the student when he is not in a position to help himself.

It would be interesting to know, Sir, the reason for the continuance of this malpractice.

Yours, etc.,

CARDINAL MORTON.

Queen Victoria Ward.

Sport

The Boat Club

A YEAR so unproductive of tangible results can rarely have been so productive in the finding and fostering of talent. Unfortunately, examinations and work generally interfered with the activities of the 2nd VIII, which had to be scratched from both the Head of the River and Inter-Hospital Race.

The 1st VIII had the honour of pacing the Oxford University crew a day or so before the Boat Race, and in the Head of the River Race managed to lift itself one place. Later it los- the

Inter-Hospital Race after rather a poor effort. The crew had, it appeared, improved its style considerably, but at the cost of essential "leg drive."

Lack of "leg drive" has cramped the possibilities of the Guy's crew for some years, and it is vital that it should be regained.

Mr. Charles Messer, of the Thames R.C., again very kindly coached the boat at considerable personal inconvenience, and the thanks of the Club are due to him.

In the middle of the season our boat was completely smashed through grounding on a hidden shoal. Our new boat is, however, a great improvement, and an age-long grumble has been removed.

The Clinker IV just lost the Fours to St. Thomas's, but beat St. Mary's handsomely. The Light Four was beaten easily, but as it had only been out three times this was not surprising. Our Junior Sculler did very well to be beaten by only a length in the final of the Sculls.

The President, Mr. R. C. Davies-Colley, attended the United Hospitals' Regatta, and we are only sorry we could not show him better racing on the part of the VIII.

Earlier in the season Guy's raced the London University champions—King's College. We won easily on two occasions, but were beaten by a canvass the third time.

The Annual Dinner was held after the United Hospitals' Regatta and proved a most enjoyable affair. Mr. A. B. Wayte took the role of Puck for the evening; he is, it appears, an authority on Ash Trays (especially round ones with holes in them). The Captain made a very good speech, to which the jealous Secretary replied by six speeches in quick succession, for which he was severely, but rightly, censored.

We have to thank Dr. Scott Turner for his very generous gift of a pair of Silver Sculls, which will shortly be seen in the "Spit."

G. S. W.

Hospital Information, etc.

Pass List

UNIVERSITY OF OXFORD.
DOCTOR OF MEDICINE.
Harold E. Harding.

UNIVERSITY OF CAMBRIDGE.
M.B., B.Ch.
Easter Term, 1934.

PART I.

Surgery, Midwifery and Gynæcology.

*F. I. Evans *F. J. Curtis H. A. Hamilton

PART II.

Principles and Practice of Physics, Pathology and Pharmacology.

*F. I. Evans *C. G. Pantin
*M. S. Spink

* Have now completed the examination.

SOCIETY OF APOTHECARIES OF LONDON.
FINAL EXAMINATION.
June, 1934.

Surgery.
R. M. Outfin.

Medicine.
P. E. Cresswell.

Forensic Medicine.
P. E. Cresswell.

Midwifery.
W. McC. Graves Morris.

ROYAL COLLEGE OF SURGEONS.
F.R.C.S.
PRIMARY EXAMINATION.

A. Bowen Davies K. C. Sarkar
L. Z. Cosin R. Strang
M. S. M. Mehta

Papers by Guy's Men

Montagu Maizels and Jean Smith. Infantile diarrhœa with special reference to dehydration and otitis media. *Lancet*, 1934, i, 1329.

J. V. Braithwaite. Congenital stenosis of the hepatic duct. *Proc. Roy. Soc. Med.*, 1934, xxvii, 1008; Sect. Study Dis. Childr., p. 46.

H. W. Barber. Pustular psoriasis of the extremities. *Ibid.*, 1029; Sect. Dermat., p. 55.

A. H. Douthwaite. The treatment of gastroptosis and visceroptosis. *Medical Press*, 1934, clxxxix, 550.

L. J. Witts. Prognosis of pernicious anæmia. *Lancet*, 1934, i, 1407.

Marriage

FERNIBOROUGH—ORAM.—On 15th June, 1934, at St. Paul's Church, Ambala, India, by the Rev. Canon T. Lister, M.A., Squadron Leader Frank Ferniborough, M.C., Royal Air Force, to Kathleen Carrie Oram, Q.A.T.M.N.S.

EDS. {D. P. K. P. W. C.

GUY'S HOSPITAL GAZETTE

A Journal of Medicine, Surgery, Dentistry and Hospital News.

PUBLISHED FORTNIGHTLY.

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PASSIM

SINCE our last number the appointments to the Junior Staff for next year have been made. We should like to offer our congratulations to those who will be holding these posts, and at the same time to express our regret to those who next year will no longer be working with us here.

▭

IN addition to changes in personnel, there will come into force next October the new scheme, whereby instead of there being four Surgical Registrars, one attached to every surgical firm, there will be two Resident Surgical Officers, whose duties will consist mainly of operating and Out-Patients, and who will do no teaching rounds, and two Surgical Registrars whose main duties will be to teach on morning rounds in the wards.

We feel sure that this change must have entailed considerable discussion and argument before it was adopted, but we feel entitled to criticise it on the following three points only :—

1. During "take-in" weeks in the past the Surgical Registrar has been able to see such cases as acute abdomens and fractures from their arrival at the Hospital till their operation either by himself or by a member of the Staff. The next morning, therefore, with the ward clerks he has been able to discuss the pros and cons of any surgical procedure that may have been adopted in a way that is only possible for a man who has been in intimate touch with a case. Thereby he has fulfilled a most important part in the surgical teaching of the Hospital. In future the teaching Registrar, it seems to us, will arrive in the morning for his daily round during "take-in," confronted with a number of cases operated on during the previous night, and about which he can expect to know nothing; and yet it is just these cases which the ward clerks find most difficult to understand. Why, he asks, was operation performed in one case and yet delayed in the case of the patient in the adjoining bed?

2. In future, each Registrar will be required to teach and supervise twice the number of students that he has had in the past, and thereby the individual attention, which up till now has been such a valuable asset to the surgical teaching here, will to a certain extent be sacrificed.

3. Perhaps by no means the least important drawback to the new scheme is the fact that the Resident Surgical Officers will have to undertake the arduous duties of taking-in on alternate weeks. Knowing how utterly fatiguing a take-in week can be for a Registrar, we look with some foreboding on the effect which this will have on the health of the Resident Surgical Officers.

Perhaps it is early to criticise, but, on the whole, we do not see how the new arrangement can be regarded as a progressive step. In actual practice it may work out more satisfactorily than we anticipate, and this is what we hope.

We would like to take this opportunity of congratulating D. F. G. Moir on winning the Theodore Williams Scholarship in Pathology at Oxford University. It is many years since this honour came to Guy's.

In future, notifications of Births, Marriages and Deaths may be inserted in the *Gazette* free of charge. It is hoped that readers will use this means of keeping in touch with their friends and thereby increase the interest of the *Gazette* to old Guy's men.

A Guy's Charity Ball

For almost the first time in its history the Hospital is organising a Charity Ball on a large scale. Hitherto the Governors have rather shunned publicity of this type, and, in consequence, at any rate among the public, the idea has gradually evolved that Guy's is a rich and well-endowed hospital. Actually, as we all know, this is quite untrue, and it is hoped that a Guy's Charity Ball may be the means of emphasising some of our urgent needs. Though the actual profit from a ball cannot go far in paying off our accumulated debt, which now amounts to over £200,000, a successful social function in the West End cannot help but advertise the needs of the Hospital to a wider public.

So much for the reasons which have induced the Governors to sanction the ball. Now as to details. The date is Tuesday, November 13th, and the place is the Dorchester Hotel, where the ballroom is being enlarged to render it the largest and finest in London. Better still, the Prince of Wales, President of the Hospital, has graciously consented to be a Patron, and large numbers of influential and well-known people have joined the Committee, of which the Chairman is the Countess of Carrick. A list of the Committee and Patrons will be published shortly.

The price of tickets has been fixed at two guineas each, which includes a first-class supper and champagne. To encourage parties, six tickets may be obtained for the price of five. Already a large number have been sold, and as the number available is limited, early application is desirable. Tickets may be obtained from the Organising Secretary, Mrs. Maclean, at 7, Park Lane, W.1. It is hoped that many old Guy's men will support our new venture by coming themselves, bringing parties or disposing of tickets to their patients.

Obituary

MISS ADA BEARD

Her numerous Guy's friends will be sorry to hear of the passing on July 6th of Ada Beard. She entered Guy's for her training in 1898, before the present Nurses' Home was built, and her last year was spent as Head Nurse in Martha.

On leaving Guy's she went to Purley and was engaged for several years in private nursing; from 1905 to 1907 she nursed Dr. H. M. M. Woodward, who was then compelled to lie on his back for a long period.

In 1907 she was appointed the first Matron of the Purley Cottage Hospital of eight beds, which occupied a private house on the Brighton Road. The present hospital was built soon afterwards; with this the Matron had much to do. Miss Beard was Matron for 11 years, and during the war was in charge of the Military Hospital housed in the Purley Hospital and adjacent buildings. It has since, as the War Memorial Hospital, been enlarged to 50 beds.

After the war she started a Nursing Home in Purley, and remained in charge of it for about ten years.

Throughout her life, contacts with Guy's men and women have been many and various. In recent years she was often "warded" in Martha, and in her last illness repeatedly recalled the pleasure of her stay there and spoke of what she owed to sisters, nurses, house surgeons and students.

She contributed to the *Gazette* (1933, vol. xlvii, p. 455) a brief account of her experiences as a patient. She recalled with pleasure how "her" Ward Clerk had got up early one spring morning to get some bursting buds for her locker.

For the past five months, owing to the generosity of Dr. P. C. Litchfield and of other friends, she had been carefully tended in the Hutton Home, Purley. She was given all possible relief with drugs until unconsciousness ended an illness of which her ever-optimistic nature refused to admit any ending but that of complete recovery.

We know that she would wish that all who, even in the smallest way, cheered or ministered to her should receive her thanks through our columns.

The Incidence and Prognosis of Intracranial Tumours

By D. W. C. Northfield, Esq., M.S.

IT is not possible to state accurately in figures the present-day incidence of tumours of the brain, but they are placed much higher in lists of diseases than formerly. This is, no doubt, due to increasing accuracy in diagnosis, and to the formation of neuro-surgical centres, where their life histories have been more clearly depicted. Walshe, quoting Bailey and Cushing, states : " Of all the organs of the body, with the possible exception of the uterus, the brain appears to be the most frequent seat of neoplastic disorders." This is hardly a fair judgment owing to the concentration of cases at these famous clinics. " Nevertheless, Cushing's statement is of importance in that it draws attention to what will probably not be disputed, namely, that the brain ranks with the breast and uterus among the commonest sites of new growth-formation in the body." Further, when considering the frequency of neoplasm amongst other disorders of the nervous system, it is interesting to note that of 1,309 patients admitted to the National Hospital, Queen's Square, during 1928, intracranial tumours head the list with 163 cases, disseminated sclerosis, 132 cases, and neuro-syphilis, 113 cases.

Tumour of the brain occurs equally amongst both sexes, and reaches its maximum frequency at the age of 40-45 years. It is found comparatively rarely at the extremes of life. The neoplasms are distributed in the following positions :—

Cerebrum, 50 per cent.
Pituitary, 25 per cent.
Cerebellum, 15 per cent.
Cerebello-pontine angle, 10 per cent.

The frequency of the various types of tumours is fairly constant amongst the big clinics :—

Glioma, 40 per cent.
Meningioma, 13.5 per cent.
Acoustic neuroma, 11.5 per cent.
Hypophyseal duct tumour, 8.5 per cent.
Pituitary adenoma, 4.6 per cent.

These are the more important varieties, from national hospital sources. They correspond closely with Cushing's figures, except for a much greater proportion of pituitary tumours (20 per cent.) at the latter centre. In the neuro-surgical department of the London Hospital during 1933 there were 111 verified intracranial tumours. There were classified as follows :—

Glioma, 49.
Meningioma, 13.
Acoustic neuroma, 8.
Pituitary adenoma, 16.
Hypophyseal duct tumour, 5.
Hæmangioma, 8.
Metastatic carcinoma, 10.
(Tuberculoma, 2.)

" The gliomas . . . were long ago baptised by Virchow with a histologically accurate, convenient and all-embracing family name. . . . So long as they remained unclassified, however, the gliomas were looked upon as hopeless lesions, for which the surgeon supposedly could do little except temporarily to alleviate by decompressing measures some of the more disturbing symptoms." This quotation indicates the necessity of the present-day rather bewildering and complex classification of this heterogeneous group of tumours. It has been realised for many years that the term glioma embraced tumours which might be benign or most malignant, and Tooth initiated in 1913 an endeavour to clear away some of these apparent anomalies. He found that tumours might resemble closely a mere overgrowth of glial cells, whilst others were markedly cellular with evidences of cell division, vascular activity and areas of necrosis. Slowly, with the application of special staining methods, a more intense and minute study resulted in a fuller classification. In fact, classification and nomenclatures have become so involved that the issues are still clouded. The swing of the pendulum is gradually diminishing, and valuable analyses have resulted. The accepted classifications are all based on the similarity which various tumour cells commonly bear either to the mature glial elements or to their embryological and developing forms. Hence, before the incidence of the various groups can be examined one must recognise a few elementary facts concerning the significance of their names. It is unfortunate that, though simple in origin, these names are so cumbersome.

The nerve cells and their processes are surrounded in the central nervous system by a network of special cells—the neuroglia—in the main derived from the neural ectoderm. Intimately associated with the blood vessels, and acting as supporting and protective agent, the glia cells are of three types : astrocyte, oligodendroglia and microglia (a homologue of the reteculo-endothelial system, phagocytic, and derived from mesoderm). When the primary neural epithelium proliferates it gives rise on the one hand to cells known as spongioblasts, destined to become astrocytes, oligodendro-

glia and ependyma, or, on the other hand, it forms neuroblasts from which develop neurones. Some observers believe in the existence of a third neutral or multipotent cell, which can develop either way and which is termed a medulloblast, though its presence has never been proved. These various cells have characteristic shapes and staining properties, and may be readily recognised in appropriate preparations during the stages of growth of the embryo.

The gliomas consist of cells closely resembling these immature ones. By comparing the cells, their arrangement and the amount of fibrillar network, these tumours have been classified on a histological basis, and given names according to the arch type which they mimic. We need only deal with the commonly occurring ones, the medulloblastoma, spongioblastoma multiforme and astrocytoma, constituting about 80 per cent. of all gliomas.

If the age incidence for the whole of this group be plotted as a graph, one finds a curve with its peak at the age of 40-45 years, and a smaller elevation at the age of 10-15 years. The curve falls steadily as the age of 60 is approached. Further, if analysed into supra- and infra-tentorial location, two single-peaked curves emerge. The one of infra-tentorial gliomas reaches its summit at the age of five years, rapidly falling after 15 years to a very low level in adult-hood. The other starts fairly low, but rises to a maximum in late middle life. This characteristic graph of the infra-tentorial tumours corresponds closely to the incidence of medulloblastoma, which constitutes about 10 per cent. of all gliomas and is essentially a tumour of children. It arises in the vermis of the cerebellum in the roof of the fourth ventricle. Very rarely does an adult suffer from this type of tumour, and then it is usually cerebral in location. Another common tumour in children is the cerebellar astrocytoma, also arising in the vermis, though at times originating in one of the lobes. It is often cystic, and 10-15 per cent. of gliomas are of this variety. A rarer tumour in this situation is the ependymoma. To put the matter in another way, about 27 per cent. of gliomas are cerebellar in situation, and are essentially tumours of children.

In adults, a glioma most frequently occurs in the cerebrum. About 26 per cent. are astrocytomas and are most frequently subcortical in the frontal or temporal lobes, but, of course, they may occur in any situation. The spongioblastoma multiforme—about 40 per cent. are of this type—is also a tumour of adults and may arise anywhere in the cerebrum. It has a predilection for being deeply seated in the white matter, often involving the corpus callosum and thus spreading from one hemisphere to the other. The oligodendroglioma, not nearly so common a tumour as the above two, grows also almost exclusively in adults in the hemispheres.

Passing on to the tumours arising without the brain tissue, the commonest probably are those in the pituitary region giving rise to visual phenomen by pressure on the optic nerve or chiasma. They are the adenomas of the gland itself, and the tumour of congenital origin, known variously as the hypophyseal duct tumour, suprasellar cyst, craniopharyngioma, adamantinoma, etc.; a much rarer tumour is the suprasellar meningioma. The incidence of these tumours varies with different clinics. Cushing and Bailey give the adenoma as 19 per cent. and hypophyseal duct tumour as 6 per cent. of all intracranial tumours. At the National Hospital, the respective figures are 4.6 and 8.5 per cent.

It has been suggested that with keener recognition of the clinical syndrome, adenoma of the pituitary will be found to be as common as that of the thyroid. As Dr. Close recently showed in a review of post-mortems, an adenoma of the pituitary occurs in one in 10 bodies, generally in people of over 45 years. Though in many of the cases the adenoma was too small to give symptoms clinically, yet it suggests that the pituitary is by no means uncommonly the site of new growth—rather the reverse. It is unfortunately true that many of these cases are undiagnosed until blindness has almost completely developed, rather than at the earlier stages of scotoma and partial hemianopia. The average age is 35 years, and the chromophobe variety is about four times more common than the eosinophil type.

The group of congenital tumours arising in the immediate vicinity of the pituitary gland—forming 5 per cent. of intracranial neoplasms—most commonly gives rise to symptoms in youth, either of visual disturbances or of disorder of the neighbouring vegetative centres. They may remain quiescent till adult life is reached; of 92 cases, 14 occurred in the first decade of life, 29 in the second, and 19 in the third. The tumour, generally cystic, may develop actually within the sella, but more frequently grows above the sella close to the infundibulum. Very often calcification takes place in its walls, in this manner producing X-ray evidence in some 80 per cent. of cases.

About 13 per cent. of brain tumours are meningiomas, of relatively slow growth, with an age incidence of 45 years. The structure mimics the arachnoid villi, and its incidence in the cranium is more or less limited to the vicinity of the venous dural sinuses, where arachnoid villi and granulations are concentrated in numbers. The com-

monest site is parasagittal, along the course of the superior sagittal sinus, burrowing into and compressing the frontal lobes. Sphenoidal meningiomas arising along the lesser wings of the sphenoid, the olfactory meningioma from the meninges over the cribriform plate of the ethmoid also slowly embed themselves in the frontal lobes. The suprasellar type has been mentioned, gradually producing visual-field defects, without any X-ray or clinical signs of a pituitary growth. Although much more frequent in the anterior and middle cranial fossæ, they may occasionally occur in the posterior fossa, growing either close to the exits of cranial nerves or from the torcula.

However, much more common a posterior fossa lesion in adults of 40-50 is the acoustic nerve tumour. This is a tumour of the endoneurium, akin to generalised neuro-figromatosis of von Recklinghausen. It is occasionally bilateral, and may occur as part of a generalised peripheral nerve condition. It arises from the neurilemmal sheath in the distal part of the vestibular division. The growing tumour thus comes to lie in the internal auditory meatus, which it gradually erodes. Rarely this bony defect may be visualised by X-rays.

It follows from the introductory quotations that prognosis in brain tumours depends primarily upon the histology, and then upon the success of the operation in eradicating it completely, also upon the severity of the operation with due regard to the anatomical situation. The operative mortality varies so widely for differing tumours that it must be seriously considered in this question of prognosis, when the non-operative treatment is uniformly fatal. The problem is much more complicated than that of surgery in other parts of the body, where a benign tumour may be completely and permanently eradicated with negligible risk. Indeed, the most benign cerebral tumours may carry the heaviest mortality. Finally, one should consider the extent, if any, of irreparable damage to the brain, though the manner in which compressed brain tissue will recover function is at times nothing short of miraculous.

The meningiomas are encapsulated neoplasms, well demarcated from the brain. Hence it would appear at first sight possible to enucleate them completely, and where this is done one may promise permanent and complete freedom from recurrence. This is not absolutely true for a few of these tumours are reported to have recurred both locally and in the meninges as a plaque-like invasion. However, these are too few to affect the prognosis materially. Hence one can assume prognosis to be identical with the chance of recovery from operation. Further, functional recovery, except in the largest of tumours, is well-nigh perfect. Unfortunately, these operations carry a high mortality rate. Diagnosis may be extremely difficult, and a faulty localisation may bring one on the tumour by way of an unsatisfactory approach. Moreover, such operations are accompanied by very considerable blood loss from the vascular bone and meninges and owing to their predilection for the major venous sinuses. The dangers do not cease with the termination of these great technical difficulties, for such cases are liable to give considerable anxiety during their recovery. Cushing gives a mortality of 20 per cent., recently reduced to 11 per cent. Thus four patients out of five will recover and have excellent expectation of life.

Operations for acoustic nerve tumours present even greater technical difficulties. The capsule of the tumour becomes adherent to the neighbouring cranial nerve and to the pons and medulla, lying deeply in the cerebello-pontine angle and covered by cerebellum. A complete removal of the growth with its capsule entails certain injury to these structures, generally leading to a fatal œdema of the hind brain. By resecting a portion of the cerebellar hemisphere, the neoplasm may be more fully exposed, and the surgeon contents himself with removing the major portion—not necessarily all—leaving the capsule intact. By this means symptomatic relief is procured, with a minimum amount of facial weakness and instability of gait. Vision is saved and useful existence preserved. Recurrence may take place, but usually slowly and after a fairly long interval. The operative mortality is very high, from 15 to 20 per cent. A nice judgment has to be exercised in deciding the nature of operative treatment for the individual case.

When considering the prognosis of the group of tumours in the neighbourhood of the sella turcica, one must bear in mind the aim of the operation. These cases come to the surgeon on account of failing vision. That is the paramount indication for operation, though it may be only one of many other symptoms and signs. Consequently, the criterion of the success of any surgical interference must be the degree of permanent improvement or protection of the eyesight. Total extirpation of a pituitary adenoma is never aimed at; in fact, serious deprivation symptoms may arise if this occur. One can expect in early cases, when the chiasma has been thoroughly freed from pressure, that the visual fields and acuity will improve almost to normal. Where a marked hemianopia has been present for a long time—such as occurs with the slow-growing insidious suprasellar meningioma—the most one can hope

for is preservation of the existing status. And this may involve meticulous care at operation in avoiding the slightest damage to the optic nerves. Where the tumour is large, and the vision in one eye is nearly destroyed, it may prove a wise step to divide the optic nerve on that side, in order to obtain space for the manipulations necessary to free the other more adequately. Complete freedom from recurrence follows the attack on a meningioma in this region. Occasionally the remains of an adenoma will grow and give rise to further trouble. X-rays may prove successful in keeping this recurrent growth controlled, though except for the eosinophil type such therapy is of no value as a substitute for operation in the first instance. The operative mortality by the transfrontal route, which has almost entirely superseded the trans-sphenoidal one, is about 4 per cent., which is remarkably low considering the nature of the operation. Convalescence is generally uneventful and rapid, so that a patient is usually quite willing, in the event of recurrence, to undergo a further operation.

The craniopharyngioma cannot be given such an excellent and simple prognosis as these pituitary growths. The patient, frequently a child, often presents in addition to a hemianopic visual failure indications of a lesion of the hypothalamus and crura cerebri, with marked rise in intracranial pressure. The tumour is often cystic, and puncture of this cyst may give relief for a varying length of time. Efforts to eradicate a large tumour may lead to a fatal termination owing to the consequent œdema of the neighbouring structure, though the results for radical operation are better than those for partial. Hyperthermia is a common terminal catastrophe. Smaller tumours can be partially or completely removed, and in adults much relief will follow clearing of the optic nerve and chiasma. The mortality is usually 20 per cent., or even higher.

The glioma evidently presents a very different and more complicated problem, for we are dealing with a group of tumours of varying tendencies to invade. Further, the actual type often cannot be determined until the growth is exposed at operation, and then classified by immediate histological examination.

The spongioblastoma multiforme—perhaps the most malignant of growths anywhere in the body—has been largely responsible for creating the unfavourable views about gliomas as a whole. This tumour has no line of demarcation from brain tissue and may be extremely vascular. Often by infiltration rather than by pressure it produces signs of a progressive lesion. Whatever operative procedure is adopted the outlook is hopeless. Their life history without operation averages three months, and with the most extensive removal six to nine months' survival. Radiation has so far proved of no permanent value, though often prolongs the survival period considerably. Further, operations of a palliative nature—decompression or ventricular tapping—precipitate the end by hæmorrhage or œdema. If met with in the course of an osteoplastic craniotomy and exploration, a large excavation of the growth must be made, and the patient may then die of hæmorrhage. The effort is constantly to be made to avoid operation upon such cases where the diagnosis can be made with reasonable certainty, though this is often not possible.

The medulloblastoma—that mid-line cerebellar tumour of children—is usually only moderately vascular, and also not well demarcated from brain tissue. At operation it may sometimes look so firm and localised as to tempt apparently total removal. Unfortunately, they always recur, and may even spread through the meninges. These tumours are very sensitive to radiation, and, following a decompression, this may prolong life, commonly up to three years. Possibly this figure will be improved upon when further advance is made in radio-therapy. If a radical removal of the tumour is performed as at some clinics, the operative mortality is about 30 per cent.

The remaining gliomas do not by any means share this gloomy prognosis. Astrocytomas, oligodendrogliomas and ependymomas provide much more satisfactory results. The first named, especially when occurring in the cerebellum in children, is of relatively slow growth, with a well-formed line of cleavage from normal brain, by following which the growth may be completely extirpated. If cystic, the fluid collects between the surrounding brain and the tumour, so that the latter may come to lie eventually in the wall of the cyst, occupying a relatively small area. It is known as the "mural nodule," and can be completely excised.

The results of excision of these tumours are considerably better than those of operation for malignant growth elsewhere in the body. Gask recently summarised the results of treatment of carcinoma of various regions, and stated that only 30 per cent. survived for five years or more. In 1931, Cushing published notes on a series of 78 cases of cerebellar astrocytoma. If one takes the first 35 of these, up to the year 1926, so as to obtain a five-year post-operative interval, then of these 20 were still alive in 1931. During that time neuro-surgical diagnosis and technique were making enormous strides, and these figures include all his earliest cases. Showing the improvement

which has taken place in recent years, Van Wagener will be quoted. He recently published the follow-up results of one year's series at the Peter Bent Brigham Hospital. Eleven cases of cerebellar astrocytoma were operated upon during that year, and eight were still alive as useful citizens eight years afterwards. These operations were performed before endothermy had been introduced into neuro-surgery, and present-day results promise to improve even on these figures, which are amongst the best for any type of intracranial tumours.

Where recurrence occurs, prognosis is not necessarily bad, for it may be as readily attacked as the original tumour. For example, a decompression was performed upon one case in 1906 and relief followed for five years, when a cyst was punctured, giving further freedom from symptoms until 1924. The "mural nodule" was then excised and the patient was still well in 1931. The operative mortality in these cases has been reduced from 11 to 3 per cent. The ependymoma when it occurs in children is a more formidable growth to tackle, owing to its size and position, deeply placed in the cerebellum in the roof of the fourth ventricle, sometimes extending as far as the iter. This tumour is much more rare than the previous one, but is similarly benign, yet prognosis before operation must be guarded, for the mortality rate is 25 per cent.

The cerebral astrocytoma and oligodendroglioma are not so favourable a group as those mentioned in the previous paragraph, yet there are cases where recurrence has ensued only after many years' interval. The mortality is much lower—4 to 8 per cent.

In conclusion, to quote again from Cushing's and Bailey's works: "In glioma of this (cystic astrocytoma) type as would appear when the mural nodule has been found and removed, a cure may be expected." "From a pathological standpoint about 40 per cent. of all classified gliomas, a percentage larger than that represented by the malignant spongioblastomas, represent lesions which need not be greatly feared." This must, of course, be qualified by his previous statement, but for the chance of their being unfavourably situated."

Three Cases of Acute Intestinal Obstruction

B.M.A. PRIZE ESSAY FOR 1934

By M. S. Spink, Esq., M.R.C.S., L.R.C.P.

CASE A.—F. L., male, aged 54, admitted about mid-day, February 1st, 1933, complaining of severe colic and vomiting.

Previous history: Ruptured himself about 23 years ago, but with a truss had no trouble till two days previously, when the rupture enlarged, causing him pain; then severe frequent vomiting and complete constipation.

On admission he was seen to be a rather undersized man with very pinched, grey features. The eyes had an anxious expression. He vomited continuously and copiously and without effort. The vomit was dark, thin, and foul-smelling, and the breath smelt fæcal. Tongue furred.

The left inguinal region showed a hernia passing from the external inguinal ring into the scrotum, very tender and exhibiting no impulse on coughing and non-translucent. The abdominal wall in general was not distended or tender or tense, nor were peristaltic movements visible.

Operation was performed under spinal anæsthesia, with the usual incision for oblique inguinal hernia. The herniated bowel was found constricted at the external ring, engorged and plum-coloured, but still glistening and viable. There was no fluid in the sac, which, however, contained also a large bunch of omentum which had been drawn down with the bowel. This was ligatured and cut, the bowel returned to the abdominal cavity, and the common Bassini procedure carried out for radical cure.

Post-operatively: A Ryle tube was passed into the stomach and 16 ounces of foul black fluid drawn off, the stomach washed out, and then connected up with a Sprengel water pump to exercise continuous stomach drainage. Saline and glucose solution was given per rectum.

Next day he still vomited, although pulse remained steady at about 80, and the stomach was washed out again with bicarbonate. In the afternoon the stomach became markedly distended, and it was questioned whether a second obstruction had supervened, but there were sounds of peristalsis at the ileo-cœcal junction. A laparatomy for ? ileostomy was refused.

8 p.m.—He had a rigor and his pulse rose to 120; later to 140. He became very cyanosed and toxic, with feeble-running pulse. His mind remained clear. Intravenous saline-glucose infusion by drip feed was given. Pituitrin 1 c.c. and adrenalin were given to no avail, and patient died 36 hours after operation.

Post-mortem showed local paralytic ileus of about 5 feet of ileum above the engorged portion that had been strangulated. Heart stopped in diastole. Cloudy swelling of kidney.

CASE B.—T. R., male, 67, admitted June 30th, 1933, for generalised pain in the abdomen and vomiting.

Previously, nothing relevant except tendency to increasing constipation for last ten years.

Present complaint began with going to stool three times in the morning of the day before admission; then, at 2 p.m., onset of sudden severe pain in epigastrium shortly after his dinner.

The symptoms increased till, at 6 p.m., he vomited. The pain and vomiting continued till admission at 12.15 a.m. the following early morning.

On admission, patient was in great pain, with Hippocratic facies, costal respiration, and a rigid markedly tympanitic abdominal wall. There was thought to be diminished liver dullness and a shifting dullness in the flanks. Great tenderness per rectum. The hernial orifices were tender, but not bulging. No peristalsis was observed. Tongue was dry and furred. Pulse was rapid and thin (100); temperature was normal; respiration was slightly raised. Constipation was complete. Perforation was diagnosed.

Operation under spinal anæsthesia, a median incision, allowed about 5 feet of blackened gangrenous small intestine to appear. This was found to be a volvulus wound around a Meckel's diverticulum, which was itself gangrenous; 6 feet of small intestine were resected and joined end to end.

Post-operatively, intravenous glucose and anti-gas gangrene serum were given. For a time the pulse was fair, regular and of good volume; later it became irregular, rapid and small, though he himself seemed well and sensible and did not vomit. The bowels did not open. Cardiac failure became apparent, and he died 30 hours after admission.

CASE C.—L. L., male, aged 7, admitted January 18th, 1933, for pain in right side of abdomen. Previously he had had a congenital umbilical hernia.

Present complaint.—On the 15th, patient was seized with sudden pain in the right side and vomiting. The vomiting continued for two days, at first mucous and later changing to a dark, watery character. The bowels opened early in this period, but little fæces were passed and absolute constipation followed.

On admission, the patient looked thin and weak, but tongue was normal. Abdomen was distended, rigid and tender on right side, and tympanitic on percussion. No visible peristalsis observed. Pulse was fair at 80. Temperature normal. Respiration normal.

Operation was performed immediately, and a portion of the small bowel was found herniated through a congenital gap in the mesentery. This hole had a large vessel running in the margin, and had been further recently constricted by adhesions due primarily to a tuberculous lymphatic gland. The intestine was glistening and viable, though deeply engorged, and was released and the hole obliterated by sutures.

Post-operatively, the pulse at first rose alarmingly, the temperature followed. Strychnine was injected and intravenous gum saline was administered. Next day condition had far improved, and the bowels opened spontaneously, and thereafter the patient made an uneventful recovery.

SYMPTOMATOLOGY

The leading symptoms in these cases are pain, vomiting and constipation.

Constipation, coming on suddenly in a life regular as to bowel habits, always deserves attention. As the precursor of the strangulation that follows often upon a simple obstruction, and the absolute constipation of these cases, taken with the next two symptoms, is of highest diagnostic importance.

Pain deserves detailed discussion. Hurst[1] and Morley[2] have established that intestinal pain arises in the viscus itself. First it gives the colicky pain, due to affection of nerve endings by the severe contractions of the intestinal musculature attempting to force bowel contents past an obstacle, and/or as a result of over-distension and increased tension by a concretion or dammed-back mass of fæces. This pain is localised vaguely to the spot beneath which the involved segment lies, but in no way affects the parietes with local tenderness or rigidity. Secondly, it gives a dull ache due to congestion of the entrapped segment, and paralysis of the engorged viscus follows. This, noted particularly in case A, is a late and very grave sign, regarded so often by the patient in the light of relief, as it usually replaces the original excruciating colic.

It is suggested also that the mesentery has a nerve supply rendering it sensitive to trauma such as twisting and strangulation, accounting for the more central and residual or background pain which often accompanies the colic, but not markedly exemplified in our cases, except to some extent in A. It is noteworthy that strangulation of omentum alone in a hernia gives neither type of pain.

Finally, a parietal pain appears in such cases as go on to inflammatory changes outside the gut, *i.e.*, gangreme, etc., where the parietal peritoneum is irritated or itself infected, and hyperæsthesia and rigidity of some part of the abdominal wall is found. This was a marked feature of none of these three cases, and is not characteristic of pure obstruction.

Vomiting is of three main types. There is the reflex-central-toxæmic group, which includes reflexes from irritative lesions in any part of the alimentary canal, such as gastritis, cholecystitis, etc., or other organs, such as renal colic; vomiting due to uræmia, eclampsia, etc.; and that due to central irritation as in meningitis, cerebellar disease, migraine, etc. In this group nausea is very characteristic and precedes and accompanies the vomiting. Secondly, we have the paralytic group as in acute dilatation of the stomach, leather-bottle stomach, severe fatigue or emotion or paralytic ileus. Here nausea is absent, and the vomiting is an effortless regurgitation in most cases. Vomiting is not invariably present,[3] and then true obstruction is liable to be missed.

The cases we have considered typify the third or obstructive group, which includes strictures of œsophagus or stomach, diverticula, spasm of stomach or intestines, and, far severer, the series of causes of actual obstruction of small or large intestine discussed below. The vomiting is noted as being continual, copious projectile and usually unaccompanied by nausea. It is interesting to note that in case A the original projectile obstructive vomiting gave way in the later stages to the regirgitant vomiting of the paralytic type, just as the colicky pain was replaced by the duller more constant, pain of an engorged and paralysed intestine.

There remains to review a number of less striking and constant symptoms.

The "shock" syndrome is highly important: pallor, rapid weak fluttering pulse, cold pale sweating skin, subnormal temperature, the drawn, anxious "facies Hippocratica," cyanosis of the extremities, an unusually clear mind. This comes on in the later and/or post-operative stages.

Tympanites commonly signifies involvement of the large less often of the small gut. It appears very markedly in two of our cases, so much so in case B that it was regarded as due to gas from a perforation.

Visible peristalsis is not infrequently found in cases where a previous chronic obstruction has suddenly developed an acute condition after causing hypertrophy of the bowel. It is of great diagnostic value when there is no obvious external strangulation. But under all circumstances the abdominal wall should be auscultated for evidence of increased peristalsis.

Jaundice is a striking but rare occurrence.

In summary, our three cases are good examples of the important triad—pain, vomiting, with absolute constipation. The absence of the last would open the door to a host of diagnoses, such as inflammation of the bowel, pancreas, or other pelvic or abdominal viscus, or colic in the bile duct or ureter, or acute thoracic conditions, or even reflex from disease of the spine or spinal cord, such as tabetic crises or Pott's disease.

One important reservation to this is that there is a small class of cases in which some portion of gut is strangulated without involvement of the whole lumen: Appendix—Wilkie points out the obstructive nature of many cases of appendicitis; Meckel's diverticulum; diverticula of the descending colon, and in the rare but interesting Richter's hernia. Here obstruction, acute and complete, occurs without actually causing constipation. The shock syndrome is well marked in cases A and B, less so and later in the boy.

Although differential diagnosis has already been touched upon above, in view of the misdiagnosis in case B it is well to touch on a few well-defined differentiations, always remembering that there are no absolute water-tight compartments.[13]

Perforation usually gives a history of ulcer pain and then a sudden onset of very burning, stabbing pain, accompanied at once by rigidity and tenderness due to peritonitis, and usually absent in the simple obstruction.

Colic, gall-stone or renal, is similar in character, but pain is brought on in first instance by jolting or movement, often, and is more definitely, localised. Besides, constipation is absent.

Uræmia is a very difficult differentiation, frequently giving a picture identical with the cases described. The urine should always be tested.

Chest disease should be carefully excluded by auscultation.

Pancreatitis gives a pain piercing to the back, which is not usual in obstructive cases. There is also a curious diagnostic cyanotic tinge.

Appendicitis and diverticulitis are also often very difficult to exclude, as already remarked, and the differentiation is often only apparent on laparotomy, but, of course, constipation is frequently absent in these cases.

Peritonitis should be excluded by the obvious early parietal type of pain and rigidity, with absence of peristaltic sounds.

Simple colic is rarely severe enough to be mistaken for obstruction, and the contracted segment of bowel may be felt. Lead colic and tabes

should be excluded by examination of the gums and jerks, and a careful history.

Lastly, a double pathology should always be borne in mind. In case A, though the obvious strangulated hernia was relieved, the continuance of symptoms led to doubt as to whether there might be a second internal constriction; later it proved to be a local paralytic ileus. Hernia en bis sac might also come under this heading.

The etiology of acute obstruction may be shortly discussed by quoting the figures of three random years of cases from Guy's Hospital—1921, 1922, 1926 :—

Hernias afforded	77	cases with	18	deaths	(23.4%)
Intussusception	58	,, ,,	5	,,	(8.6%)
Strangulation by adhesions	30	,, ,,	11	,,	(36.6%)
Neoplasms	12	,, ,,	7	,,	(58.3%)
Volvulus	5	,, ,,	4	,,	(80.0%)
Ileus	4	,, ,,	3	,,	(75.0%)
Diverticulitis	2	,, ,,	1	,,	(50.0%)
Impaction	2	,, ,,	1	,,	(50.0%)
Pressure from without (Tb. glands)	1 case.				

We can say, then, disregarding intussusception as occurring mostly in infants, by far the commonest cause in ordinary practice is strangulation of some form of hernia of the intestines. The 77 cases mentioned are divided as follows: Femoral, 34; inguinal, 30; umbilical, 5; ventral (surgical), 3; paraduodenal, 2; diaphragmatic, 1; obturator, 1; lumbar, 1. A mesenteric hernia, as in case C, is very rare and did not occur in these three years. The incidence of strangulation is much greater in femoral than in inguinal hernias, being 34 out of 158 cases admitted (21.5 per cent.), whereas in inguinal hernia the chances of strangulation appeared to be only 30 in 823 cases (3.6 per cent.). Other forms have an incidence as follows: Umbilical, 5 in 59 (8.5 per cent.); ventral, 3 out of 45 (6.7 per cent.); Richter's type of hernia was only once recorded, and that was in the single instance of a lumbar hernia. Reduction *en masse* did not occur, but should be borne in mind.[4] Bands and adhesions, including Meckel's diverticulum,[5] come next, causing complete obstruction in 30 out of 46 cases (65.2 per cent.). Volvulus caused it in five out of six cases. Ileus or intestinal paralysis occurs to some degree in all acute cases of peritonitis. It, however, may be regarded as a primary obstructive condition when it takes place due to local inflammatory condition, as, *e.g.*, appendicular abscess,[6] or to operative interference. It may also be due to mesenteric embolism in heart disease. Other rarer causes are: Purpura hæmorrhage into the bowel wall; impaction of foreign bodies in the lumen, such as gall-stones or fæcal masses, particularly where a neoplasm or adhesion is already causing a partial narrowing. Swallowed foreign bodies, the common cast in the new-born. Bryant[7] has recorded obstruction by adhesion of the gut to a lithopædion!

PATHOLOGY AND TREATMENT OF OBSTRUCTIVE CASES

The gravity of the "shocked" condition of the three patients described depended, as usual in such cases, on a combination of three factors :—

Obstruction to onward passage of bowel contents. This by itself, though not immediately nor even remotely fatal (Whipple[7]), is able, especially in high obstruction as in cases A and C, to produce severe vomiting. This in turn causes a heavy loss of fluids and chlorides from the system, and thus assists, if it does not initiate, the shock syndrome, and is further, in some ill-understood way, connected with a great rise in the blood urea.

Obstruction to the blood supply is more immediately serious, and from engorgement leads on to gangrene, as in case B. Resection of the gangrenous piece is the only course, and is dictated by finding the part swollen, discoloured, motionless, with a dull, sticky surface, and oozing purulent fluid.

Absorption of toxins from the obstructed loop or a paralysed section of bowel is the most dangerous pathological process in these cases, and falls to be further discussed. It was responsible for the deaths of patients A and B, being probably the primary cause of the "shock." The purely nervous reflex side of the question is a definite factor—proved in such an instance as a Richter's hernia, where obstruction in its full sense does not exist; but the effects are probably confined to the local segment of bowel and are of the nature of a localised ileus—which, of course, assists the absorption of toxins present in the lumen. Bacterial invasion is rarely the cause of the fatal sequel.[14] The existence and virulence of toxin-absorption was first demonstrated by Whipple,[8] who showed that substance from a closed loop of dog's intestine injected into a healthy dog produced similar shock and collapse, but had no effect when placed in a loop of intestine; that the substance may be chemically separated as a proteose; that it is only formed in the presence of intestinal mucosa, and that it causes a rapid rise in blood urea.

Scholefield[9] confirmed these results. He isolated "loop" poison and injected it intraperitoneally, and into the circulation, and by cross-circulation, and proved the responsibility of a circulating toxin. He showed that high obstruc-

tion was needed for high toxicity, and also the presence of bacteria, notably B. welchii, was desirable, but not necessary, for toxin formation.

He also showed that evacuation of the intestinal contents above the strangulation frequently gave dramatic relief. He, however, formed the impression that dogs reacted somewhat differently from human beings.

Williams[10] noted the close resemblance of patients in the moribund stage of obstructive shock, to the victims of gas gangrene. He found B. welchii in the gut and also suitable conditions for the production of a soluble exotoxin, at the site of obstruction; also B. welchii and the toxin in the vomit in 19 out of 20 cases examined. The pathology of the results in both cases bore close resemblance—pallor, low temperature, weak pulse, clear mind, and, at post-mortem, congested œdematous suprarenals.

Brockman[11] noted that there was no relation of the general toxicity to the degree of intestinal wall damage, and that the chief feature of fatal cases in the experimental dog was that the obstruction lay below the bile-duct entrance. If the site were above the duct or a circuit was made permitting the passage of bile, then death occurred much later or not at all. The excessive loss of bile in the vomit he regarded as the counterpart to the prevention of its downward passage. *In toto*, the acute condition ran pretty much parallel with the degree of biliary obstruction and bile loss. He, therefore, concluded that the rectal administration of bile, either from the patient's vomit or from another party, or even ox-bile would best combat the progress of toxœmia and shock, and, in effect, in a number of his cases the vomiting stopped and improvement set in.

It is proposed, lastly, that at least some part may be played by anaphylaxis. Whipple, at the very start, remarked on the resemblance to anaphylactic shock in dogs injected with loop poison. Haden and Orr[12] likened the picture to an allergic attack with the rise in blood urea, the fall in blood chlorides, and the rise in blood bicarbonates.

Sensitisation by bacterial toxins is well recognised in skin diseases, but is not sufficiently understood to bring into the question here; but intestinal obstruction presents a picture closely resembling anaphylactic shock following absorption of proteoses, abnormal products of the stasis, in large quantities, as a true antigen, of which small amounts have at different times been previously absorbed. Jaundice, cloudy degeneration of the liver or kidney, and failure of the heart in diastole might also support this theory. The chemical picture outlined, the loss of fluid and chlorides can only partly be explained by the excessive vomiting, which is remarkable in producing far greater quantities of fluid than originally was found above the obstruction. It must therefore be partly excretory from the bowel wall, and so, as much an effect as a cause of the general condition of shock. All these various points are still very disconnected, and therefore treatment is equally so.[15]

The first measure is always laparotomy. Every hour's neglect of a strangulation raises the mortality. Spinal anæsthesia, as in cases A and B, is of value, blocking the nervous reflexes. It did not, however, favourably affect the ileus in case A. Drainage of the gut, when viable, though not performed in A or C, is sometimes dramatic in the immediate relief afforded, loosing the pressure, which helps the toxic absorption. Following Williams,[10] anti-gas gangrene serum, as in A and B, should be given, but it is frequently ineffectual.

Bile enemata were not given in any three of our cases, but is worth trying, as relief of vomiting and toxæmia sometimes follows.[11, 13]

Adrenalin should be tried on the possibility of the condition being partly anaphylactic; in case A, given freely (m.xvi), it did not avail. Strychnine was freely given in C, which recovered, but its value is hard to assess. Attempts to drive the bowel into activity by pituitrin and purgatives, as in case A, are worse than useless. Intravenous saline fluids were given in all three cases; glucose was added in the first two. The value of both is probably high, combating the loss of fluids and chlorides by vomiting, raising blood-pressure and reducing viscosity of blood and the load on the heart, and supporting the body's need for glucose; particularly the liver, which is the organ bearing the brunt of the toxæmic condition. Given by drip feed is an additional valuable measure, as it prevents sudden overloading of the heart and pulmonary œdema. The addition of gum to the saline as in case C is possibly of advantage in retaining the fluid longer in circulation. It need not be added that rectal fluids should also be given.

SUMMARY

Three cases of acute obstruction are described. Symptomatology, differential diagnosis and ætiology are briefly discussed, and finally, the pathological principles underlying the admittedly disjointed present-day methods of treatment are examined, and the results criticised.

REFERENCES

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4. Turner.—*Guy's Hospital Reports*, 1906.
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9. Scholefield.—*Guy's Hospital Reports*, 1927, 160.
10. Williams.—*Lancet*, 1927, i.
11. Brockman.—*Lancet*, 1927, ii, 317.
12. Haden and Orr.—*J. Expt. Medicine*, xxxvii, 365.
13. Romanis.—*Practitioner*, 1933, 3.
14. Wilkie.—*B.M.J.*, 1913.
15. L. Cope.—Acute Abdomen.

Reviews

Massage and Remedial Exercises. By NOEL M. TIDY. Published by Messrs. John Wright & Son, Ltd. Second Edition. *Price*, 15*s*.

THE fact that the second edition has been produced in 18 months speaks for itself, and proves that, as a text-book for masseuses, it is useful.

There are a few notes on Electricity added to the treatment for Subdeltoid Bursitis and Sprained Back.

The action of the long flexors of the toes, as described by Mr. Lambrinudi, has been added to the description of the deformity of the foot. Several exercises have been suggested, but one would be inclined to criticise such an exercise as "sitting picking up objects with the toes" and "heel-raising" in many of the simple foot conditions.

The work covers a large subject in a limited space. For purposes of study it is too closely written and the type too small. There is still a feeling that to perfect the work a division into a Surgical and Medical Section, increasing the size of the type, and adding some clinical results would be helpful, both to Masseuses and Students in training.

The Cadaver of Gideon Wyck. Edited by ALEXANDER LAING. Published by Thornton Butterworth. *Price* 7*s*. 6*d*.

THIS novel relates the story of an unscrupulous doctor attached to an obscure medical school in Maine, who first hypnotises girls and then seduces them for the purpose of his experiments to produce monsters. Five of these monsters are born within the precincts of a somewhat shady lying-in home. This unnatural doctor makes a mysterious disappearance early on in the story, and then a year later his body is found amongst those prepared for dissection.

Murder is, of course, suspected, and suspicion falls on most of the characters in turn, until some crucial evidence is brought to light and the scattered threads of the story become pieced together. The book is supposed to have been written by a medical student, which perhaps explains the gruesome nature of the story.

Essentials of Histology. By Sir E. SHARPEY-SCHAFER, F.R.S. Edited by H. M. CARLETON, M.D. Published by Messrs. Longmans, Ltd. *Price* 15*s*.

THIS is the 13th edition of one of the most popular medical text-books. It has already established itself as a standard work on the subject, so that a detailed review is unnecessary.

The general plan of the book remains unchanged. There are a number of new illustrations, and the chapters on the development of the blood corpuscles and bone have been rewritten. The latter is certainly much more clearly described than in former editions. The criticism we have to make of the book is that the illustrations, being for the most part photographic representations, are not sufficiently simple and clear for many students.

Guy's Hospital Reports, April, 1934. Edited by ARTHUR HURST, M.D. *Price* 12*s*. 6*d*. *Annual Subscription* £2 2*s*.

THIS number maintains the high standard we have learned to expect from these Reports. There are several particularly outstanding articles. The opening article is an obituary of Mr. Rowlands which all who knew him and worked with him will be glad always to have beside them.

Professor Nicholson has written another one of his inimitable essays on tumour-formation. He describes the unusual occurrence of metanephric tissue in an ovarian teratoma, and with this as his basis he stresses once again the biological nature of tumour growth. Dr. Forman and Dr. Whitwell in an article on Erythema Nodosum make out a very strong case for the tuberculous nature of this complaint, which in the past has usually been regarded as either streptococcal or rheumatic. Dr. Hurst and Dr. Simpson describe the clinical and pathological differentiation between mild toxic hepatitis and catarrhal jaundice. The radium

results during the last year are reviewed by the various workers in the different departments using radium.

The last article in the Reports is a review of the methods of induction of labour at the Hospital between the years 1928 and 1932, by E. Crowther-Smith, who died in such tragic circumstances a few months ago. There are a number of other interesting essays covering a very wide field of medicine.

Correspondence

Ventilation

To the Editor of the GAZETTE

SIR,—July is now nearly past, but August is yet to come. The heat and humidity of the College Dining Room at 1 o'clock is almost intolerable.

The installation of half a dozen small electric fans on the window sills of the west side of the room would ease the lot of those whose presence is required in the hospital during the dry season.

We are fully aware that there is a scheme under discussion to rebuild the College during the next 50 years, but such trifling expenditure would certainly be justifiable as the fans might well be used in the new building.

Yours, etc.,

J. C. COLBECK.

Guy's Hospital,
S.E.1.

(An even better suggestion it seems to us would be to have large overhead fans suspended from the ceiling, as they have been proved to be more effective in circulating the air in large rooms. We agree whole-heartedly that something ought to be done immediately so that patrons of the College Catering Company could regard the somewhat "traditional" menu with something less akin to nausea during the hot weather.—*Editor.*)

Hæmatemesis in New-Born Baby

To the Editor of the GAZETTE

SIR,—I have pleasure in sending you some notes on a recent case of hæmatemesis in a new-born baby treated by intramuscular injections of maternal whole blood. The treatment was successful as far as immediate relief of the hæmatemesis was concerned, but death occurred later from other causes.

Baby Newton, female, 17 days premature according to calculated date. Normal labour, R.O.A., on May 23rd, 1934; duration of labour, 14 hours. Birth-weight, 3 lb. 14 oz.

On the fourth day after delivery the baby vomited about an ounce of bright blood, and 2 c.c. of hæmostatic serum were given intramuscularly. Later in the same day another hæmatemesis occurred, and 5 c.c. of blood were taken from the mother's median basilic vein and injected into the baby's buttock at 2 p.m. No more bleeding occurred that day, but as a precaution a second injection of whole blood was given at 6.30 p.m. into the other buttock.

The fifth day was uneventful, with some improvement in the baby's condition, and she took regular small two-hourly feeds. At 6 p.m. on this day a third injection of 5 c.c. of maternal blood was given, again as a precaution. However, six hours later—*i.e.*, at midnight at the beginning of the sixth day—the baby had another hæmatemesis, and a fourth injection of maternal blood was given at 12.30 a.m. On this occasion the baby looked very ill, and it had lost half a pound since birth, so that its weight then was only 3 lb. 6 oz. I gave it a bad prognosis, but hoped for the best, and I am glad to say that no further bleeding occurred, mother and baby being discharged from hospital on the 19th day, the baby having just about regained its birth-weight.

Great credit for the successful outcome of the case up to this point is due to the sister in charge for (1) having persuaded me to give the first injection of blood, and (2) her unremitting care of and attention to the baby throughout.

All appeared to go well with the baby at home for the first week, but about the beginning of the fifth week after birth—*i.e.*, about June 19th—the baby's right thigh became very red and swollen, and it did not take its feeds well; also there was a slight return of hæmatemesis. The baby was admitted to hospital, and a large abscess containing about 4 oz. of staphylococcal pus was evacuated from the affected thigh on June 21st, sinus forceps going down to bare bone. The baby died the next day, and a post-mortem showed:—

(1) Osteomyelitis of right femur; terminal broncho-pneumonia.

(2) Lower end of œsophagus dilated and ulcerated.

Conclusions.—It appears probable that the sequence of events was somewhat as follows: The cause of the original hæmatemesis was ulceration at the lower end of the œsophagus, and the injections of whole blood had gone far towards curing this; then the unfortunate occurrence of the femoral abscess led to a gradual general toxæmia and loss of resistance, thus allowing the quiescent œsophageal ulcer to take on a new lease of life—hence the slight return of hæmatemesis

and the active appearance of the ulcer at post-mortem.

It will readily be appreciated that in a baby weighing under 4 lb. there is not much room to spare in the gluteal regions, and the two amounts of 5 c.c. of fluid which were injected into each buttock would be under some degree of tension. The usual aseptic and antiseptic precautions were observed in giving the injections, and I look upon the sad termination of the case as a piece of bad luck.

I hope the comparative rarity of these cases will excuse the inordinate length of these notes.

Yours, etc.,

R. B. P. LANSDOWN.

100, Woodcote Grove Road,
Coulsdon, Surrey.

Hospital Appointments

Guy's Hospital Medical School

THE following appointments and re-appointments have been made by the School Council for the ensuing year :—

Medical Registrars—
Dr. E. T. Conybeare.
Mr. M. J. McArdle.
Mr. H. A. Treble.

Surgical Registrars—
Mr. H. J. B. Atkins.
Mr. R. C. Brock.

Demonstrator of Anatomy, Whole-time—
Mr. W. G. Gill.

Demonstrators of Anatomy, Part-time—
Mr. R. V. Payne.
Mr. R. Strang.

Demonstrator of Operative Surgery—
Mr. A. R. Clarke.

Demonstrators of Physiology, Part-time—
Mr. C. G. Baker.
Mr. W. H. Bradbeer.
Mr. C. A. Clarke.
Mr. R. V. Payne.

Demonstrator of Pharmacology, Part-time—
Mr. C. G. Baker.

Clinical Tutor in Charge of Preliminary Clinical Period—
Mr. E. R. Boland.

Demonstrator of Pathology, Whole-time, with Charge of Clinical Laboratory—
Mr. R. L. Waterfield.

Assistant Lecturer in Pathology—
Dr. C. K. Simpson.

Griffiths Demonstrator of Pathology—
Mr. S. J. De Navasquez.

Gull Student in Pathology—
Dr. C. K. Simpson.

Demonstrator of Pathology, Part-time—
Mr. C. A. Clarke.

Anderson Demonstrator of Clinical Chemistry—
Dr. G. H. Oriel.

Assistant Lecturer in Chemistry—
Mr. W. M. Colles.

Demonstrators of Chemistry, Whole-time—
Dr. F. H. Brain.
Dr. B. Levin.

Demonstrator of Chemistry, Part-time—
Dr. E. Matthews.

Assistant Lecturer in Physics—
Dr. A. C. R. Wakeman.

Demonstrator of Physics, Whole-time—
Mr. H. J. Starks.

Demonstrator of Physics, Part-time—
Mr. W. W. Gilford.

Demonstrators of Biology, Whole-time—
Mr. C. Boswell.
Mr. J. S. Wilkie.

Demonstrator of Biology, Part-time—
Mr. W. E. Young.

Obstetric and Gynæcological Registrar—
Mr. J. B. Blaikley.

Guy's Hospital Dental School

The following appointments and re-appointments have been made by the School Council for the ensuing year :—

Registrars in the Dental Department for Children—
Mr. R. Cutler.
Mr. R. E. Rix.

Demonstrators of Dental Prosthetics—
Mr. D. S. Clogg.
Dr. E. Matthews.
Mr. M. A. Rushton.
Mr. G. G. T. Tregarthen.

Demonstrators of Operative Dental Surgery (Morning Attendance)—
Mr. C. B. de V. Green.
Mr. D. J. Wandless.
Mr. A. R. F. Thompson.
Mr. H. A. M. Ching.
Mr. C. S. Henderson.
Mr. J. A. C. Hunter.
Mr. H. H. Kenshole.

Demonstrator of Dental Bacteriology—
Mr. C. S. Henderson.

Assistant Curator to the Dental Section of the Gordon Museum—
Mr. F. S. Warner.

Demonstrator of Dental Histology—
Mr. F. S. Warner.

Sport

Guy's Hospital A.F.C.

THE Annual General Meeting of Guy's Hospital A.F.C. was held on July 16th. Dr. Ryle was unanimously re-elected as President, as were also the Vice-Presidents. The following were elected officers for the season 1934-1935 :—

Captain—D. A. Priestley.

Vice-Captain—R. L. V. Henderson.

Hon. Secretary—R. W. Harvey.

Asst. Secretary—G. C. Sprigings.

Committee—1st year, To be elected ; 2nd year, H. Lea ; 3rd year, G. Morgan ; 4th year, F. J. R. Stoneham ; 5th year, B. Lawson ; Dental year, G. M. Johnson.

Golf

THE competition for the President's Prize took place at West Kent Golf Club on May 23rd in very fine weather. The results were as follows :—

Scratch, 36 holes—

P. Hanbury	83+80=163

Handicap, 36 holes—

A. Walton	90—21= 69
	+92—18= 74
Total	143

Morning Round, 18 holes Handicap—

N. L. Eckhoff, Esq.	91—15= 76
R. B. Todd White	89—13= 76

Former wins on first 9 holes.

Afternoon Round, 18 holes Handicap—

A. E. Panott	85— 7= 78

Guy's v. Sussex Medico-Dentals

The Hospital were the guests of the Sussex Medico-Dental Society on June 3rd, and a match of singles and foursomes was played on the St. Leonard's Course. A very good day's golf resulted in a win for Guy's by 8 games to 4. The scores were as follows :—

SINGLES

Sussex Medico-Dentals		*Guy's*	
Dr. Lee (3 & 2)	1	H. C. A. Weighell	0
A. Kelt (5 & 4)	1	A. L. Young	0
Dr. Ward	0	I. Drybrough Smith (3 & 2)	1
Dr. I. M. Chisholm	0	B. J. Doran (3 & 2)	1
Dr. A. F. Grace	0	B. C. M. Reed (3 & 2)	1
Dr. F. Cutler	0	E. Gaven (2 & 1)	1
Dr. E. Crawley (3 & 1)	1	C. L. Blacklock	0
Dr. P. Barlow	0	D. P. Stevenson (8&6)	1
	3		5

FOURSOMES

Lee & Kelt (2 & 1)	1	Doran & Young	0
Chisholm & Ward	0	Weighell & D. Smith (2 & 1)	1
Grace & Cutler	0	Reed & Stevenson (3 & 2)	1
Dr. E. Gwynn & Barlow	0	Gaven & Blacklock (8 & 6)	1

Guy's v. North Surrey

On June 13th, the Hospital played North Surrey and won a singles match by $4\frac{1}{2}$—$3\frac{1}{2}$. Details :—

Guy's		*North Surrey*	
H. C. A. Weighell (3 & 2)	1	W. Duthie	0
B. C. M. Reed	$\frac{1}{2}$	J. P. Stacey	$\frac{1}{2}$
I. Drybrough Smith (1 up)	1	B. J. Doran	0
A. E. Parrott (8 & 6)	1	R. G. Salmon	0
A. L. Moung (1 up)	1	C. Hewett	0
D. A. Ibbetson	0	J. S. Reid (2 up)	1
E. Gaven	0	H. J. Pearce (5 & 4)	1
D. P. Stevenson	0	L. T. Salmon (2 up)	1
	$4\frac{1}{2}$		$3\frac{1}{2}$

The United Hospitals' Spring Meeting was held at West Hill Athletic Club on June 19th. The Scratch Cup was won by the Royal Dental Hospital. Guy's were very unsuccessful, the best scratch return being that of B. J. Doran.

In the morning Medal round, Dr. F. A. Knott was placed third, equal with 85—8=77, and in the afternoon Medal, B. C. M. Reed and I. Drybrough Smith were third and fourth respectively with 81—6=75 and 82—6=76.

Three Guy's men were in the United Hospitals' team which played Sunningdale on June 26th. All were unsuccessful in the morning foursomes, but H. C. A. Weighell won his single by 2 & 1 from Lt.-Col. R. D. Milner, and C. B. Elstob

halved with G. F. Earle. P. B. Hanbury was unlucky to be beaten by one hole by R. S. Stroyan, after being dormy three down and holing the course in exactly bogey. Sunningdale won the match by 7—4.

Guy's v. Royal Wimbledon G C.

In the first fixture *v.* Royal Wimbledon Golf Club on June 27th, four four-ball matches were substituted for the usual singles, and Guy's put up a notable performance in winning all of them against a strong club side. Results :—

Guy's		*Royal Wimbledon G.C.*	
H. C. A. Weighell & C. B. Elstob(4&3)	1	E. C. Millard & N. F. Leech	0
P. Hanbury & A. L. Young (5 & 4)	1	A. Newton King & Capt. G. T. Heaven	0
B. J. Doran & H. B. Thornton (2 & 1)	1	H. F. Alston & A. N. Other	0
I. Drybrough Smith & B. C. M. Reed (3&2)	1	E. Pearse & Dr. F. A. Knott	0
	4		0

Guy's v. R.M.C.

On July 4th, Guy's played a match *v.* R.M.C., Sandhurst, at Camberley Heath, and were victorious in a match of singles by 5—3. This was another very successful first fixture. Details :—

Guy's		*R.M.C., Sandhurst*	
P. B. Hanbury	0	Dolphin (2 up)	1
B. J. Doran (4 & 2)	1	Bucher	0
H. B. Thornton (1 up)	1	Gamble	0
A. L. Young	0	K. Drybrough Smith (9 & 8)	1
B. C. M. Reed (6 & 4)	1	Seagrim	0
A. E. Parrott (6 & 4)	1	Meredith	0
E. Gaven	0	Gretton	1
D. P. Stevenson (4&2)	1	Brieze	0
	5		3

Guy's v. Sidcup G.C.

On the evening of July 11th, the Hospital were entertained by Sidcup Golf Club, who inflicted a heavy defeat on us by 7—1, thus exactly reversing the results of last year. Details :—

Guy's		*Sidcup Golf Club*	
P. B. Hanbury	0	W. S. Taylor (1 up)	1
H. C. A. Weighell	0	A. M. Johnston (6&5)	1
B. J. Doran	0	E. A. Blanch (3 & 1)	1
B. C. M. Reed	0	S. O. Blazer (3 & 2)	1
A. E. Parrott (4 & 3)	1	H. W. Astell	0
A. L. Young	0	F. Lawrence (4 & 3)	1
C. L. Blacklock	0	K. N. Craig (6 & 5)	1
D. P. Stevenson	0	F. H. Clark (5 & 4)	1
	1		7

Hospital Information, etc.

Notice

Guy's Hospital Dental School

EXAMINATION FOR THE NEWLAND PEDLEY MEDAL AND PRIZE IN OPERATIVE DENTAL SURGERY

June, 1934

The following Award has been made :—

Hayton-Williams, R. J. G., Medal and Prize.

Pass List

SOCIETY OF APOTHECARIES OF LONDON.
PRE-MEDICAL AND PRIMARY EXAMINATIONS.

July, 1934.

Anatomy.

H. D. Lamb — B. A. R. Pitt

Physiology.

H. D. Lamb — B. A. R. Pitt

UNIVERSITY OF OXFORD.
B.M., B.Ch.

Medicine, Surgery and Obstetrics.

P. Alexander — A. M. G. Campbell
J. H. Bartlett — D. W. Geidt
C. A. Boucher

Pathology.

G. O. Jelly.

Materia Medica.

M. A. Partridge.

Papers by Guy's Men

S. Shone and G. P. B. Whitwell. Observations on rosacea. *Lancet*, 1934, ii, 11.

C. S. Hallpike and D. W. Ashcroft. On the function of the saccule. *Jour. Laryn. Otol.*, 1934, xlix, 450.

Change of Address

A. R. Gillies, L.D.S.Eng., 269, West End Lane, West Hampstead, London, N.W.6. *Hampstead* 2449.

EDS. { D. P. K. / P. W. C.

GUY'S HOSPITAL GAZETTE

A Journal of Medicine, Surgery, Dentistry and Hospital News.

PUBLISHED FORTNIGHTLY.

Volume XLVIII *4th August* 1934 *Number* 1201

PASSIM

WE all learn with regret of the resignation of Mr. Eason from his position as Senior Ophthalmic Surgeon. His dressers will never forget his extraordinary insight into the workings of the minds of the Borough patients. He always seemed to know exactly how to make them feel at their ease, and there must be very few who did not feel the benefit of his kindly wisdom. Fortunately, his retirement as Ophthalmic Surgeon does not mean his retirement as Superintendent of the Hospital.

The vacancy which he leaves is being filled by F. W. Law, Esq., M.D. (Camb.), F.R.C.S. (Eng.). Educated at Cambridge and the Middlesex Hospital, he is necessarily a comparative stranger to us. However, that does not mean that we extend to him any less hearty a welcome to the Staff.

We are all delighted to learn of the appointment of R. J. Cann, Esq., M.S., to the Staff as Assistant Ear, Nose and Throat Surgeon. He has been associated with Guy's as Clinical Assistant in the Ear, Nose and Throat Department for so long and his advice has been sought by all so frequently that we can do no more than offer him our very hearty congratulations on his appointment.

▭

MOST of our readers will have already learnt, through the columns of *The Times*, of the sudden death of the late Professor Pembrey. His death will have been a shock to all Guy's men, for his personality, his teaching and his striking appearance were all so individualistic that those that came into contact with him awarded him a special place in their conception of the Hospital as a whole. It is only a short time ago that he retired from his professorship here to devote the rest of his life to farming, which for many years he had studied both as a hobby and as an adjunct to his physiology. We hope to publish an Obituary in the next number.

▭

FROM time to time the House Committee sends out notices about one thing or another. The most recent one deals with prescribing of complex mixtures by House Officers. It is addressed especially to incoming House Officers, so that we can only assume that the House Committee has either given up the Senior Housemen as irredeemable, or that the Senior Housemen have become so tired of having their prescriptions returned as incompatible that they have abandoned the unequal struggle with the elements and have reverted untold to the stock mixtures.

The last paragraph of this notice tells us that 2,000 gallons of Liquid Paraffin are prescribed annually, and beseeches House Officers to find some more economical method of dealing with the widespread constipation that prevails. "When in doubt treat the bowels" has become such a stand-by in Medical Out-Patients and the Borough patients have been so well educated in the use of Paraffin as to demand it almost as a right that we are going to be hard put to it to find a satisfactory substitute.

WE wish to congratulate the following on their appointments :—

House Physicians—

To Dr. Poulton—L. G. Mackenzie.
To Dr. Ryle—A. G. Johnson.

Throat and Ear House Surgeon—

To Mr. Layton—W. T. J. Fowler.

Genito-Urinary and Orthopædic House Surgeon—

P. A. Wilkinson.

House Surgeons—

To Mr. Davies-Colley—G. V. W. Doherty.
To Mr. Slesinger—S. H. Wass.

Ophthalmic House Surgeon—

C. J. F. Blumenthal.

Obstetric Resident—

D. W. Geidt.

Out-Patient Officers—

T. E. Howell.
D. P. King.
J. M. McArthur.
J. E. Rowlands.

Assistant House Surgeons—

To Mr. Ogilvie—R. A. Andrews.
To Mr. Doherty—F. A. Nicolai.
To Mr. Grant-Massie—W. H. Hamilton.
To Mr. Eckhoff—H. Cameron.

Resident Medical Officer in Bright Ward—

Mr. A. M. Cantor, L.R.C.P., M.R.C.S.

THE above photograph gives some idea of the progress which has been made in the demolition of the Baby Ward, etc. Since it was taken, most of what it shows has been levelled to the ground, and the labourer's pick has played considerable havoc with the houses immediately behind and facing on Newcomen Street.

IT may be of interest to many to learn that there are still obtainable at the Guy's Shop a few of the records of the music to the Residents' Play of 1933. The record is a pianoforte duet played by C. de Gruchy and K. L. Scott, published by the Parlophone Company.

With reference to the preliminary notice of the forthcoming " Ball of the Future," in aid of the Hospital on November 13th, which appeared in the last number, we hope to publish further details in the next number.

Streptococcal Adenitis and Glandular Fever in Children

By H. C. Cameron, Esq., M.D.

I PROPOSE to consider one of the very common disorders of childhood, and yet one which, for some reason, has, I think, received inadequate description in text-books both of General Medicine and of Pædiatrics—Streptococcal Adenitis. I suppose it is because of this inadequate description that there is to-day frequent confusion with another very different and much less common disorder, Glandular Fever. Quite recently there was published a detailed account of an epidemic of illness at a preparatory school which was described as an outbreak of Glandular Fever, yet the description could hardly leave any doubt that the illness was not Glandular Fever but Streptococcal Adenitis.

Even in the very full consideration of streptococcal infection which was published recently in the *Guy's Hospital Reports* and to which Dr. Ryle contributed so much that was of lasting value, there is little mention of streptococcal adenitis and its relationship to streptococcal fever. At least in childhood, and the manifestations in childhood in the symposium were not specially considered, adenitis is the most constant and striking feature of streptococcal infection.

The swelling of the submaxillary and jugular lymphatic glands is secondary to a streptococcal invasion of the tonsils or pharyngeal wall. When the result of this invasion is an acute tonsillitis, follicular, ulcerative or membranous, the secondary glandular swelling may be merely incidental and attract little attention. On the other hand, it can be a most prominent feature of the illness. The glands may be very greatly enlarged, and the swelling may persist for many weeks, long outlasting the primary source of infection in the throat. Further, there are many cases in which the primary focus in the throat is so slight and so transient that it may be overlooked, so that the glandular swelling has the appearance of a primary infection. In such cases, with minimal reaction in the lymphoid tissue of the tonsils and pharyngeal wall, the main struggle is conducted on the second line of defence, the jugular and submaxillary lymphatic glands. This combination of minimal signs of local infection in the throat, with great and persistent enlargement of the corresponding glands, while met with from time to time in children of all ages whose tonsils are still *in situ*, is the rule (1) in the tonsillectomised child and (2) in infants under two years of age.

(1) *Tonsillectomy* cannot, of course, prevent a child falling a prey to any epidemic of streptococcal infection to which it is unfortunately exposed. It is only when there are repeated re-infections, exacerbations of a smouldering and chronic infective focus in the tonsil that tonsillectomy brings relief. Tonsillectomy rids the child of the special risks of re-infection which he incurs from the infected state of his tonsils. It does not free him from the risk which he shares with the rest of the community, the risk that he may succumb to an epidemic of streptococcal infection. If he does so succumb, the child whose tonsils have been removed commonly reacts with a glandular rather than with a pharyngeal infection.

(2) Similarly in the infant and very young child such infections tend to involve the glands quite disproportionately. The younger the child the greater the risk of suppuration, and in the first two years of life abscess-formation is almost to be expected in all but mild cases. The presence at this age of a retropharnygeal gland, and its very constant involvement in the adenitis, adds to the difficulty. In the first two years of life a retropharyngeal abscess with its trio of characteristic symptoms—stiff neck, dysphagia and stridulous dyspnœa—developing in that order—is by no means uncommon.

When the stress of infection falls in this way upon the cervical glands, the illness is usually much more prolonged than is the case in tonsillitis. Three weeks is a short course, six weeks a common one, and I have seen cases last as long as ten weeks. The glands may swell to a great size, becoming brawny and indurated, or they may remain separate and discrete, surrounded only by a little œdematous swelling. Suppuration may occur at any time in the course of the illness, is common in young infants, and grows rarer as age increases. The glands are both painful and tender to the touch. Especially when the glands deep to the sternomastoid muscle are involved there is often torticollis. Movement of the neck is almost always painful and resented. The child in moving in bed or sitting up often holds the head in both hands, seeking to reduce movement of the neck to a minimum. Toxic erythematous or urticarial eruptions, usually transitory and generally most marked on the extensor aspects of the limbs, are not infrequent.

The swelling of the glands often varies from day to day, periods of recession with improvement of all symptoms giving place to periods of increased swelling with renewed pain and pyrexia. Indeed, the intermittency of the pyrexia, and as a rule of

all other symptoms as well, is perhaps the most characteristic feature of a prolonged and anxious illness. After two or three days of high fever, delirium, fretfulness and pain, the child may become comparatively happy and interested in his surroundings, while the pain and swelling of the glands are demonstrably less. Then suddenly the whole illness begins again with renewed force. It is not surprising, unless parents are forewarned, that each of these remissions is apt to be hailed as the permanent recovery with subsequent disappointment. I think these renewed bouts of pyrexia are not to be regarded as relapses. Intermittency seems a feature of the disease.

At times, indeed, the whole picture changes even more rapidly, and every day sees a rise and fall from a condition of comparative well-being to extreme discomfort. I have seen a boy of five years old who for six days in succession, after a morning spent playing in bed quite happily, became, always at about 3 p.m., intensely feverish, flushed and cyanosed, with rapid pulse and delirium. About 2 a.m., he fell asleep, and awoke apparently well with a normal temperature and pulse. Blood cultivations throughout were negative. This septicæmic type of temperature chart is not uncommon, and naturally gives rise to great anxiety.

Ultimately, as a rule, after a course of from three to six weeks the temperature gradually falls and the glands subside. The illness is often a severe one and leaves the child thin, anæmic, nervous and irritable, or listless and easily tired. The only common complication is a hæmorrhagic nephritis. As a rule, with complete recovery from the streptococcal infection there is also a complete recovery of the nephritis. Persistent nephritis is suggestive of persistent infection.

But if nephritis is the only common complication of convalescence and of the later stages of the illness, it must be remembered that in many cases there is early evidence of the simultaneous involvement of other parts in the streptococcal infection. Otitis media, mastoid infection, meningitis, membranous rhinitis, antral infection, bronchitis, bronchopneumonia and dermatitis—any one or more of these may accompany the glandular swelling. In an epidemic of streptococcal tonsillitis and adenitis in a school or in a family, it is the rule to find cases with one or other of these other manifestations of the infection, sometimes with and sometimes without the prevalent adenitis. The variety in the response of individuals, even in the same family, to streptococcal infection is very characteristic. Thus I was called to see a child of one year old with a retropharyngeal abscess. The elder sister, a child of ten, had died two days before my visit from meningitis after an operation upon the mastoid. The children's nurse had been removed to hospital with a mass of glands in the neck and very high fever. The mother had been ill with severe tonsillitis and enlarged glands in the neck. The remaining child in the family had had a slight feverish attack with a transient adenitis.

Again, in a second family, the younger daughter had a prolonged bout of fever with cervical adenitis. At the same time she had a membranous rhinitis, so that large pieces of membrane could be removed from the nares, membrane which looked like a diphtheritic membrane, but from which streptococci only and not K.L.B. were cultivated. Later she developed mastoid suppuration, for which a very extensive operation had to be performed. Her sister at the same time had a quinzy, while a relative who assisted in nursing them developed an illness of some severity in which cough, laryngitis and aphonia were the most prominent symptoms.

Apart from the local reaction in the fauces to the streptococcal invasion—and this reaction varies much both in intensity and in duration, and is especially inconspicuous in infancy and after tonsillectomy—adenitis is the most constant seat of the infection, although both in individuals and in epidemics it is apt to be accompanied or replaced by other manifestations in other sites.

If now we turn to the much rarer disorder, the true glandular fever, we find a very different picture.

Glandular fever is an acute, infectious, contagious disease occurring generally in childhood, characterised by rapid enlargement of moderate degree of the cervical glands and sometimes of the spleen, the inguinal, axillary and other glands as well. The fauces are apt to be reddened, but severe tonsillitis with pain, swelling or ulceration, is not found. The temperature may be raised to perhaps 103° or higher, and the glandular enlargement is apparent on about the third day, subsiding after a week or ten days. Suppuration is almost if not quite unknown. In the few cases reported it was probably due to accidental secondary infection. Recovery is final and complete. Mortality is negligible. The patients are not, as a rule, very ill. Profound anæmia, delirium, excessive sweating, intense prostration and emaciation, common enough in severe streptococcal infection, are not found. The resemblance between individual cases in the epidemic is very close, allowing for a considerable variation in severity. As in streptococcal adenitis, nephritis is an occasional complication, but there is no likelihood that otitis media, mastoiditis, antral

infection, rhinitis, pulmonary complications or dermatitis will complicate the individual illness or the epidemic as a whole.

The differential diagnosis from streptococcal adenitis is, therefore, clear and sharply defined. In sporadic cases, where constitutional symptoms are slight, glandular enlargement from any source of irritation in scalp or teeth may have to be excluded. In practice, confusion with mumps is not uncommon.

Glandular fever, lymphatic leukæmia and streptococcal adenitis may be distinguished by means of a differential blood count. The first description of glandular fever as an entity was made by Pfeiffer in 1880, and his communication was backed by Heubner, who corroborated the account from his great experience and described the complication of nephritis. The condition of the blood was not, of course, then mentioned. The disorder, thus defined and named, persisted as a somewhat shadowy conception for the next 30 years, with a scant and stereotyped notice in most text-books. About 1910, in Germany and America, Türk, Cabot and others described under the name of "infective mononucleosis" cases clinically resembling glandular fever. The lymphocytosis is both relative and absolute. Many of the single counts are indistinguishable from those of lymphatic leukæmia. As high a figure as 95 per cent. has been recorded, but 60 per cent. to 80 per cent. is a more frequent percentage, a figure which, at least in children, should suggest of itself that the diagnosis is other than lymphatic leukæmia, when at least 95 per cent. is the rule.

We owe to Tidy in 1923 the clear enunciation of the identity of this mononucleosis and the glandular fever of Pfeiffer. The mononucleosis may be very transitory. It may occur early or it may take time to develop. A single blood examination may reveal it, or the examination may have to be repeated many times. A single negative examination is of no significance.

The existence of this mononucleosis in glandular fever, long unsuspected, probably provides the explanation of cases of recovery from leukæmia reported in the past. Türk, a pathologist who published the earliest account of so-called infective mononucleosis, describes his astonishment when he encountered his first patient recovered and in robust health some weeks later. I have myself twice encountered cases in which a pathologist's report had led to the erroneous diagnosis of leukæmia. In one case the boy, after being given up for lost, was in process of making a rapid recovery, while his elder sister was developing a similar glandular enlargement and a similar blood picture.

In contrast with the mononucleosis of glandular fever, in streptococcal adenitis we find almost always a comparatively high polymorphonuclear leucocytosis.

The treatment of glandular fever requires no description. The disease gets well and the symptoms are slight. In streptococcal adenitis most watchful care is needed. The search for evidence of involvement of other parts in the infection must be continued daily. Attention should be paid to the state of the fauces and sprays or gargles used constantly. Hydrogen peroxide seems to me especially useful. It is a good plan to fix and support the neck by firm bandaging over a cotton-wool pad so as to reduce movement to a minimum. It is clear that movement of the neck often directly causes an increase of swelling in the glands and a further rise of temperature. Antistreptococcal serum seems to me to be of striking value only in cases of membranous rhinitis, laryngitis or tonsillitis. Sometimes the streptococcal membranous exudate disappears with the same rapidity that we find when the membrane of diphtheria is treated by antidiphtheritic serum. Upon the swelling of the gland serum seems to exercise but little effect. When suppuration occurs, incision is, of course, necessary, but in general it is wise to wait until the presence of pus is unmistakable. The incision of brawny and indurated glands, from which no pus escapes, seems to delay rather than to expedite recovery.

The Eye in Migraine

By I. G. Robin, Esq., M.B., B.Ch.

THE definition of the term "migraine" is by no means easy, because of the elasticity of our ideas as to what really constitutes the disease. There is the grouping of a number of variable signs and symptoms together to form a symptom complex. The lay term of "sick headache" is an impressive one; Lloyd describes it as "an explosive neurosis," while Riley sums it up as a "a sick headache, usually unilateral, culminating in nausea and vomiting, and frequently accompanied by evidence of disturbances of various parts of the brain, occurring against a background of good health, and often associated with a family history."

ÆTIOLOGY

In spite of the great amount of work on the subject, there remains profound ignorance of the fundamental causes underlying the manifestations of the disease. This has led to many types being included erroneously. But it may be impossible, for long periods of time, to differentiate clearly the organic causes of identical symptoms, but which, when discovered, and that often only at autopsy, rule out the diagnosis of idiopathic migraine. It has been said that "nearly every misfortune to which man is heir to, at one time or another has been mentioned as a possible predisposing cause for the onset." The primary factor is often dismissed lightly as being constitutional in its origin, and Riley observes that "there is often obscure functional causes of hysterical physical symptoms" manifested as external indications of some internal nervous derangement. In connection with the ætiology it is interesting to note that, occasionally, typical migraine may change in later life to true epileptic attacks; more rarely still is the converse observed, as is seen in Case 6 (described later). C. P. Symonds points out that this occurrence is too frequent to be a pure coincidence.

Only a few of the dozen theories of possible causation which have been paraded before the public eye from time to time are of interest to the ophthalmologist; the toxic, allergic, hormonic and internal hydrocephalic are examples of factors which need be mentioned only to be discarded. The very number of these theories leads to the presumption that a disordered function of a number of systems in the body, apparently not directly related to one another, may be active in producing some factor which fires off an attack. But interest here is taken in two theories only. The first is that of reflex irritation of the brain by eye-strain. The second is that of vascular spasm. Liveing believed that migraine was a "nerve storm," and likened it to epilepsy; he considered that there was one form entirely due to ocular causes, which acted on the optic thalamus, from whence the "explosion" spread in two directions —from above downwards to the vagal nuclei, and from before backwards along the visual paths to the visual cortex. The modern conception of vascular spasm localises the disturbance in the cortex, but leaves much to the imagination as to its own cause. But it is found that both these theories tend to break down when the ophthalmoplegic variety is considered; although the classification of migraine is founded at present on an anatomical basis, the "ocular migraine" is sharply differentiated from the ophthalmoplegic variety on an ætiological standard as well. These forms must be studied more closely, and at the beginning, quite separately. Although the latter is so much more uncommon than the former, it will be considered fully in order to gain a contrasting picture.

THE OPHTHALMIC FORM

Such ætiological facts as the age of onset of the attack, sex of the patient, family history and associated diseases need not be considered, as they are identical with those of the general disease and have little bearing on this discussion. The origin of the term "ophthalmic" was in Priorry's suggestion that the symptoms were due to eye-strain, and this factor had a more important bearing here than on "non-ophthalmic" cases. Patients themselves often state that the attacks occurred after immoderate use of the eyes, and Gould said he cured 90 per cent. of a thousand cases by correcting some error of refraction. But, on the other hand, Foster Moore saw no direct causal relationship between ocular abnormalities and migraine.

Riley stated that the ophthalmic form occurs in 10 per cent. of all cases of migraine, which points to its being rarer than it used to be thought, since Elliot found over 40 per cent. with visual symptoms. The tendency nowadays is, however, to expect visual symptoms in about a third of the cases, and, moreover, to examine the eyes in all cases whether showing ocular phenomena or not. It is probable that the true state of affairs is that some small error of refraction is often detectable. In a normal person this error would be harmless, but in one with "the migrainous diathesis" it may be a real exciting cause. Martin is of the opinion that often this error is a "*post hoc*" and not a "*propter hoc*," but it is difficult to ascertain this point. But the work of Gould, although it was exaggerated, did an enormous amount of good in that it made the medical profession realise that eye-strain, by itself, can produce symptoms ranging from headache to "nervous dyspepsia," but the headache arising from this is of a different character from that seen in migraine, as will be shown shortly.

THE SYMPTOMS

The visual symptoms are exceedingly varied, but remarkably constant in the same individual. It is almost the uniform rule for the visual phenomena to precede the headache, and thus to constitute the aura of the attack, which, in the majority of cases, starts in the morning. They are the very first premonitory symptoms, following a "sense of well-being"; only very occasionally they are themselves preceded by prodromal

feelings of malaise and depression. Foster Moore and other observers mention rare cases where the attack consisted only of visual symptoms with no headache; this causes a suspicion of approaching optic atrophy of organic origin, but examination of the visual fields and discs will make the diagnosis clear.

The symptoms may be roughly divided into those due to irritation and those due to depression or inhibition of the nerve cells in the visual cortex. They help both to explain that the manifestations are cortical phenomena, and to point to the locus of the particular cells involved. The two types of symptoms may occur alone or combined; in the latter the irritative may precede or may appear in the visual field at the same time as the inhibitory phenomena. Their duration is short, but of much greater length than the aura seen in epilepsy, for they last for any time from one minute to half an hour.

The irritative phenomena consist of varying forms of moving lights or scintillations The forms may be of real objects within the visual field, or, as is more usual, of false ones Thus in the former, there may be shimmering wave-like vibrating distortions of objects, or apparent movement of obliquity Again, everything may become green or blue or scintillating or darker in colour. On the other hand, a single coloured shimmering effect or multiple dazzling and dancing lights appear over most of the visual field, or on either half of it. Other forms appear in conjunction with the inhibitory manifestations. These range from an amblyopia, or simple blurring of the vision, to amaurosis, or complete loss of light perception, and can occur without any preceding scintillations. Thus in the simple scotoma, or blind spot, a motionless dark spot appears, which increases in size to fill part or the whole of the field. The black spot may appear to "float about," and occasionally the centre of the scotoma clears whilst the periphery enlarges. The usual form is illustrated by the patient who noticed that, as he read his morning newspaper, the centre of the page became absolutely blotted out, only to recover gradually from within outwards in a quarter of an hour. Again, the scotoma may take the form of a hemianopia; this is usually vertical in character and only rarely horizontal, and it is homonymous in distribution. Here the blindness is described by the patient as being "one-sided," although this is not the case in actual fact. The horizontal hemianopia calls forth such interesting subjective descriptions of "seeing only the tops of things" or "seeing everyone with the head cut off," or again, sight may return slowly as if a horizontal "blind were being pulled up from before the eyes." A ring-like scotoma is a very rare phenomenon; it is typically hemianopic, but Zentmayer describes a case with a complete ring scotoma in one eye, which is inexplicable in origin.

The phenomenon which is best known and described in every book but is not very common in its full form is the scintillating scotoma. Here irritative are followed by inhibitory visual symptoms. The centre of a circumscribed area of the field is involved first and the varied manifestations of cortical stimulation spread outwards to implicate most of the whole field. Two forms are described, the mild and the severe. The first of these is the pyrotechnic display of lights. Dazzling shimmering lights occur for a moment's duration only, followed immediately by indistinct dark areas which rapidly disappear. The sequence of events and the exact details of the phenomena may not be appreciated by the patient because of the brevity of the attack. The second or severe type is the well known "fortification spectrum" or teichopsia. In this the centre of the visual hallucination is a scotoma, which is surrounded by a jagged or a vermicular band of light, frequently consisting of several colours. The spectre is to the right or left of the centre of the scotoma, of homonymous character, and spread out towards the periphery to any extent up to complete hemianopia. The scintillation is usually horseshoe-shaped and always surrounds the blind spot like a halo and advances in front of it to reach the periphery in from 15 to 30 minutes. Posey and Spiller point out that the centre is still subject to inhibition when the periphery is being irritated. As the

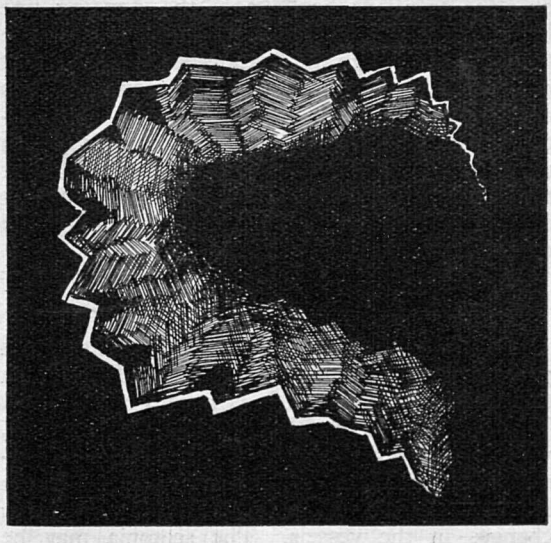

Fig. 1
"Fortfication Spectrum" or Teichopsia

scotoma reaches its limit the scintillations disappear, and the centre of the field then gradually clears, and vision returns from within outwards. The fading of the visual symptoms ushers in the headache, which is characteristically hemicranial in distribution. (Fig. 1.)

Another type of symptom is the hallucination where fictitious objects are observed. This is a very rare condition. Thus Posey describes a woman whose attacks always commenced with the vision of a bull's eye; in the case described later (Case 5) the scotoma always appeared in the form of a gigantic cat crossing the field of vision. Charcot and Babinski pointed out that these phenomena may be hysterical in origin, or, if true hallucinations, lead to a diagnosis of epilepsy and not migraine. Still more uncommon are symptoms such as Gower calls " visual illusions," which are outward projections of scintillations or coruscations. Again, there are the hemianopic hallucinations and the " migraine ophthalmique accompagnee " of Charcot, where the scotoma is present with a facial paralysis as well. It is highly probable that these are organic in origin, in so far as they may occur in Bright's disease, or else they are hysterical. Optical vertigo may occur during an attack of migraine, with pain in the globe of the eye; transient diplopia, in association with a scotoma, is sometimes seen (as in Case 4), and its significance is discussed later. Megalopia, micropsia and optical alloæsthesia are also described as occurring in migrainous attacks. Although the fields may be restricted, actual " tubular " vision has not been described as occurring in mirgraine.

It was pointed out by Harris that in all cases of absolute transient hemianopia the dividing line between the seeing and the blind halves of the field passes through the fixation point. One part of the field involved may vary from one attack to another, according to the above observer, sometimes right, sometimes left, or both outer, both upper or lower halves. One patient may refer the blind area to one eye since it occupies the right or left half of the field, but in reality it is a bilateral condition.

THE PHYSICAL SIGNS

It is very uncommon to be able to examine a patient thoroughly during an attack. Even when this is accomplished, little is usually ascertained. Thus many state that the fundi are quite normal, while only a few observers describe actual recognisable spasm of the retinal arteries. It is more likely that the latter is due to arteriosclerotic changes in the vessels. The scotoma may be demonstrated by perimetry when pronounced, but usually there is only a contraction of the field, both for form and colour, if any change is noticeable at all. The pupil rarely shows signs, although an angiospastic form is described with widening of the pupil, and an angioparalytic one with constricted pupil and unilateral or bilateral ptosis. Even more rarely mentioned is a pathological degree of " hippus," or spasmodic alternating dilatation and constriction of the pupil. Nystagmus has not been described, nor any gross transient increase in error of refraction.

These findings are those one would expect if the central theory of migraine is correct. The eye is playing a passive part; the optic nerve fibres are being stimulated at their highest level, and no changes are seen at the periphery.

Any sequelæ to the attacks are uncommon. As life proceeds, they tend to become less severe, even to discontinue after the age of 50, or sometimes the menopause in women. On very rare occasions the scotoma becomes persistent after a severe attack; thus Uhtholl and others mention five cases with permanent hemianopia after migrainous attacks for many years. Still more rarely there may occur a persistent paralytic manifestation in pupillary inequality (anisocoria) with fixity, or a change from ophthalmic to the ophthalmoplegic type. Any persistence of blindness points to the occurrence of a thrombosis of a vessel (if the theory of angiospasm in the cortex is correct), or to some other organic cause.

Any particular findings in a few isolated or short series of cases are misleading, and therefore a large number of patients must be examined before any definite conclusions are reached. Few workers have conformed to these facts, and therefore no reliable data of investigators of migranous subjects are available. The fact is that if any definite findings are made the case is rarely labelled as migrainous. Thus biochemical investigations show little abnormality, and there is such a dearth of autopsy material of pure migraine cases that post-mortem findings are wanting. In the few autopsy cases described in the literature no specific characteristics were seen. (This disclosure should be compared with the contrasting cases of ophthaloplegic migraine.) Thus MacCullum and others quote cases of hemiplegia following " migraine," in which no cerebral changes were observed even with careful microscopic serial sections. Some transient hemianopic attacks, diagnosed as migrainous in origin for many years, have been shown by Dott, Harris and others to be due to such organic lesions as an arterial angioma in the occipital, and even in the temporal, region of the cerebrum. Adee describes a relationship between " migraine in the form of a honomymous hemianopia and

spontaneous subarachnoid hæmorrhage," but C. P. Symonds disagrees with these findings. But in Noyes' case of permanent scotoma a clot was found in a vessel in the right cuneus, which was very suggestive in that there had been preceding spasm leading ultimately to thrombosis. This instance is much more in accordance with present views than the cases described of transient hemianopia with headache, which occurred in a permanent form later and in which, in each, a retinal artery was found thrombosed. In these cases the scotoma was unilateral, and not bilaterally homonymous.

The much-discussed question of the errors of refraction is still undecided. As a routine the majority of migrainous patients are subjected to ophthalmic examination in the intervals between their attacks. In almost half the number some small error is detected, usually only of .25 dioptres, but sometimes of .5 or more dioptres. To ascertain these minute errors the use of a cycloplegic is absolutely necessary. The commonest error to be found is a hypermetropia, as it is in ordinary eye-strain. Myopia is less common, but is more important because the defect must be corrected fully with lenses. But a child has up to 14 dioptres of accommodation, and an adult slightly less, for spherical errors, and it is very ususual for an error of .5 dioptres to cause any symptoms at all. Astigmatism is an important cause of eye-strain, because no accommodation will make up for a cylindrical error; it is usually seen in conjunction with varying degrees of spherical defect. Even small astigmatic errors will cause strain, and not infrequently lead to conjunctivitis, headache and blepharitis in normal persons. In the highly irritable nervous system of the migrainous patient it is more likely for this eyestrain to upset the balance and initiate an attack. It seems uncertain whether the disturbance is propagated to the cortex by nerve fibres as Liveing was inclined to believe, or by indirect sympathetic stimulation causing angiospasm. It must be pointed out that it is the small errors which call for subconscious straining for correction; with large errors the image of the defective eye is cut out of consciousness.

But many patients have no error at all. Their number has been put at about 50 per cent. of the whole. It is generally accepted that a migrainous individual can have a headache due to eyestrain, and this is quite separate and distinguishable from the true attack. What exactly are the signs and symptoms of pure eyestrain? They may be divided into three groups. The local ones, due to hyperæmia causing conjunctivitis, œdematous eyelids and tender eyeballs; the central ones, as the headache, which may be indistinguishable, by itself, from the hemicrania of migraine, but it is more likely to be situated behind the eyes and of a dull, aching character; and lastly, the general ones, such as dyspepsia and nervous irritability. Is this all that there is in migraine? The answer is surely in the negative. Even the time of onset of the headache is different, for that of migraine is prone to start in the morning, and not after a heavy day's reading. On the other hand, the last day of a business man's week is often a definite time for an attack. The conclusions reached by most ophthalmologists bear out these statements —that in certain cases errors of refraction are a precipitating or exciting cause of an attack in an already migrainous person, and that correction of them may allay the onset of other attacks. But correction cannot cure true migraine. As Carlill points out, migraine is as incurable as epilepsy, although the development, and in migraine the symptoms themselves, can be controlled.

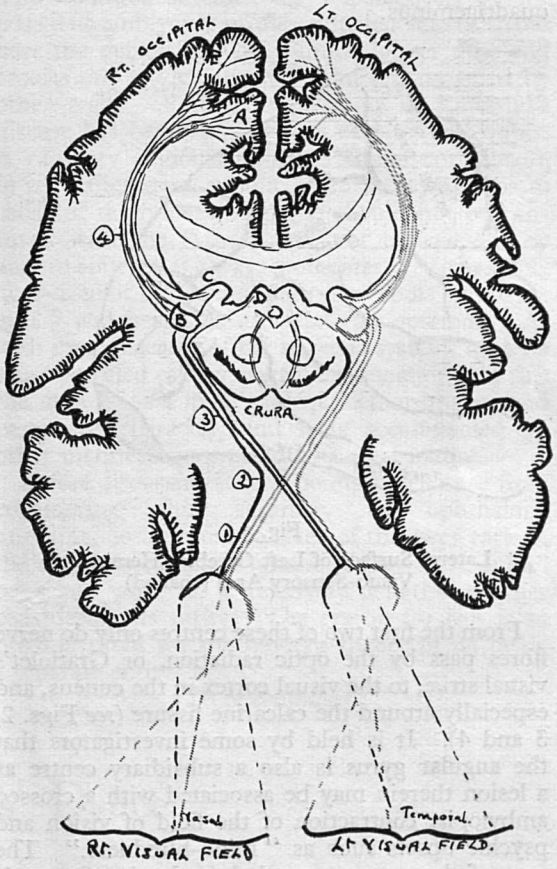

Fig. 2

A.—Cuneus
B.—Ext. Gen. Boby
C.—Optic Thalamus
D.—Sup. Corp. Quad.
1.—Optic Nerve
2.—Optic Chiasma
3.—Optic Tract
4.—Optic Radiations

ANATOMY AND PHYSIOLOGY

A brief study of the course of the optic fibres will be of help in understanding the relation of the symptoms to the actual physiological picture and in localising any causal pathological lesion.

The nerve fibres from the retina maintain in general their same relative position in the optic nerve—except that those from the fovea centralis move across to occupy the lateral quadrant and, lying in the so-called papillo-macular bundle, displace the lateral retinal fibres to supero- and infro-lateral positions. The space taken by this bundle is out of all proportion to the relative size of the fovea, because of the individuality of each of its nerve endings. After the chiasma, each tract contains the fibres of the two corresponding halves of each retina (the line being a vertical one through the fovea) and ends in the primary subcortical optic centres, the external geniculate body, the optic thalamus and the superior corpora quadrigeminus.

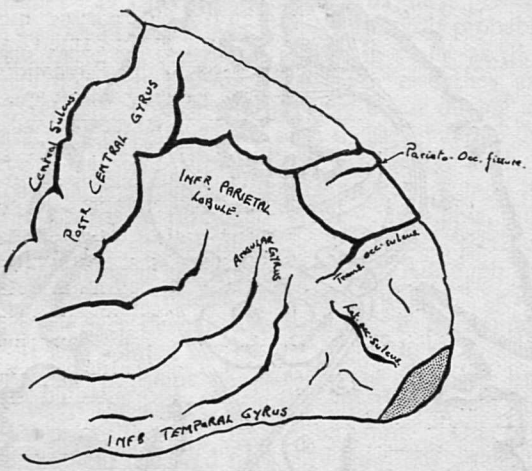

Fig. 3
Lateral Surface of Left Cerebral Hemisphere
Visuo-Sensory Area (shaded)

From the first two of these centres only do nerve fibres pass by the optic radiation, or Gratiolet's visual striæ, to the visual cortex in the cuneus, and especially around the calcarine fissure (*see* Figs. 2, 3 and 4). It is held by some investigators that the angular gyrus is also a subsidiary centre as a lesion therein may be associated with a crossed ambylopia, contraction of the field of vision and psychic upsets such as " mind-blindness." The area of the cortex around the calcarine fissure is more highly specialised than the surrounding tissue, in so much as it presents a striated appearance produced by the greatly thickened outer band of Baillarger (or band of Gennari, in the " middle cell lamina " of the cortex), and also there is a second layer of granules between this band and the outer cell lamina, which is not seen in other parts of the cortex. These granules are highly specialised cells and are found atrophied in cases of long-standing optic atrophy ; their function is obviously one of sight perception. The surrounding visuo-psychic area of the cortex has no second layer of granules, but a more developed outer cell lamina. In this demarcated field of visuosensation the projection of the two retinæ in the cortex is such that the right and left halves appear projected in the right and left cortical fields respectively, and the upper and lower in the upper and lower lip respectively of the calcarine fissure. Thus all that which is seen on the left side of the peripheral field (*i.e.*, by the right side of the retinæ) comes to consciousness by stimulation of the right half of the occipital cortex, and *vice versa.*

In studying defects of the field of vision it is essential to remember that man has binocular vision, and therefore that there is a " common

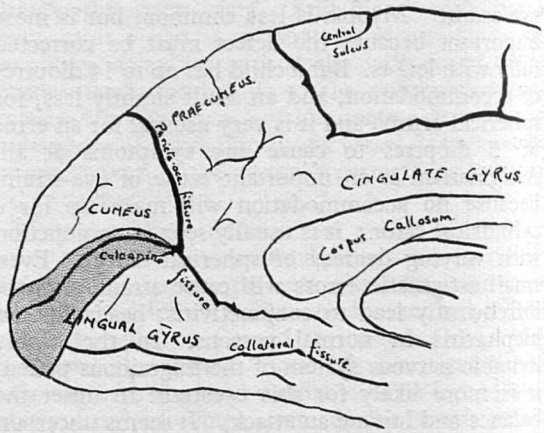

Fig. 4
Medial Surface of Left Cerebral Hemisphere
Visuo-Sensory Area (shaded)

visual field," which is large ; but each eye has a monocular field, which extends slightly farther to the temporal side of the common visual field (this, according to Fuchs, necessitates more crossed than uncrossed fibres in the optic tracts), and the resulting lateral portion of the field, serving only monocular vision, is called by Behr the "temporal half-moon."

THE HEMIANOPIA

The hemianopia in migraine is always bilateral, and since both fields are damaged by one focus, this lesion must of necessity lie between the chiasma and the cortex ; identical bilateral lesions

in both optic nerves producing similar symptoms is inconceivable. The actual type of hemianopia will locate the lesion; thus at the chiasma itself a temporal heteronymous hemianopia occurs, and this is often not complete, and causes only a slight disturbance of vision because the defects do not take in the common field of vision and the "temporal moon" is left. When the lesion is proximal to the chiasma there is a loss of the corresponding halves of the retinæ, and therefore a homonymous hemianopia; this is called right-sided if the right half of the common field is affected, although it is due to a left-sided cortical lesion.

Optic tract hemianopia does occur. It must be distinguished from that due to cortical or subcortical lesions; this may be done in two ways. Firstly, in optic tract type the margin of the defect should go through the fixation point, while in proximal lesions the macula is spared, because of its "double supply" in both cortical fields. Secondly, the "pupillary reaction of Wernicke" is determined. This depends on the anatomical fact that the pupillary fibres branch off to the oculomotor nucleus at the termination of the tract, and any lesion proximal to the latter will not involve these, and, therefore, the blinded half of the retina will be accompanied by a pupil which reacts to light, but not to accommodation; in that case the "reaction" is said to be absent. Hess appears to be the only person able to evaluate this sign well enough for it to be of diagnostic use.

Some forms of homonyous hemianopia other than the complete one do occur. They demonstrate very well the exact projection of the retina in the cortex. They are the horozontal hemianopsia and quadrant scotoma. It is in these that the "window-blind" and "headless persons" manifestations occur. An even more uncommon phenomenum is the colour hemianopia, which is an incomplete scotoma; a varying reduction in size of the field occurs with different colours of the spectrum. It is seen also in hysteria.

If the light reflex is elicited during an attack there will be no pupillary "swing"—the contraction will be well sustained, since the retrobulbar fibres are intact. This confirms the presence of supranuclear disturbance. The transient diplopia occasionally seen in this type of migraine has no explanation in the cortical disturbance. It may be due to an associated and separate lesion around or distal to the oculo-motor nuclei. Again it is possible that there is a temporary labyrinthine disturbance due to the same cause as the cortical one; this could cause diplopia in two ways. Firstly, by instigating a skew deviation of the eyes. Secondly, by a disorganisation of the person's projection of visual space, due to the loss of proprioceptor impulses from the vestibular nerve endings. The last possible explanation of this diplopia is that it is only a blurring of objects with a central or cortical misconstruction of the images.

THE DIFFERENTIAL DIAGNOSIS

The diagnosis may be difficult, but it is usually easier in this form of migraine than in the ordinary type, because the eye symptoms are helpful. The danger is that of diagnosing migraine too often. The commonest cause of misdiagnosis is the transient amblyopia of disseminated sclerosis, but here the defect lasts for a much longer time and attacks are at long intervals and accompanied by other signs. Retinal angiospasm in Raynaud's disease has been described as causing amblyopia. A capillary angioma in the occipital cortex will, in its earlier state, produce identical symptoms to those of migraine. Migraine should not be confused with the "petit mal" of epilepsy. The aura in epilepsy is always momentary. In anæmic, over-tired or debilitated persons, "spots before the eyes" and headache are relatively common. As with most diseases of the nervous system, hysteria must be ruled out by careful examination; in this the aura is of a more violent, demonstrative and persistent character, and it is accompanied by other manifestations of an hysterical nature.

Before discussing several points which arise from considering this summary of ophthalmic migraine, notice must be taken of the rarer variety, the ophthalmoplegic migraine of Charcot. It will be dealt with in a relatively lengthy manner considering its rarity. The reason for this is to provide proof for the modern theory of its being a separate entity.

(*To be continued.*)

The Nurses' Dance

DESPITE the rigours of an English summer in the Borough, and the unpropitious date, the dance arranged by the more enterprising of the nurses in aid of the Cosmo Bonsor Memorial Fund on Friday, 13th July, was a great success. About 90 people were there and enjoyed a very jolly evening.

The brave, though few in number, arrived punctually at 8 o'clock, and soon their numbers were swelled by the influx of their less strong

brethren, who, having fortified themselves, arrived a little late.

The dancing in the Revelstoke Library showed great variations in style, but was always extremely vigorous, being in keeping with the indefatigable and rather vocal trio forming the band.

Thus it was that full justice was done to the excellent refreshments provided, and the supply of cooling drinks and ices was soon exhausted. Stimulated by the refreshments, the dancers fell to with ever increasing vigour until midnight, when, amid cheers for all concerned, the dance came to an untimely end.

All those who worked so hard organising this enjoyable evening are to be congratulated on the success of their effort, which resulted in £8 being handed to the Cosmo Bonsor Memorial Fund.

NURSING NEWS

THE following nurses were successful in passing the Final State Examination in May last. The names have been added to the General part of the State Register.

Aird, A. A.
Davis, M.
Devitt, E. E.
Griffin, E.
Hartop, K.
Halford, C. E.
Howlett, E. F. A.
M'Dowall, S.
Pritchard, G.
Reynolds, G.
Roberts, J.
Rea, P.
Tart, D. E.
Thomas, E. M.
Warren, E. A.

Affiliated Training with the Cancer Hospital

Piper, J. A.

Hospital Information, etc.

Pass List

UNIVERSITY OF LONDON.

SECOND EXAMINATION FOR MEDICAL DEGREES.

PART II.

July, 1934.

J. R. Audy
J. C. A. Colenbrander
N. C. Creighton
A. Crook
A. G. Dabbs
A. R. Darlow
P. H. Denton
J. R. Miles
S. H. Raza
I. E. J. Thomas
W. G. Tillman

M.D. EXAMINATION.

July, 1934.

S. N. Evans
J. C. Heather

Papers by Guy's Men

Arthur F. Hurst. So-called "Mucous Colitis." *Clinical Journal*, 1934, lxiii, 274.

L. R. Broster. Concussion and its treatment. *Practitioner*, 1934.

W. Courtney Lyne. An inquiry into the factor causing variation, with its consequent bearing on the origin of species and the probable mode of its working. *Dental Record*, 1934, liv, 341.

H. G. Close, H. E. MacMahon and George Bass. Cardio-vascular renal changes associated with basophil adenoma of the anterior lobe of the pituitary. *Amer. Jour. Path.*, 1934, xx, 177.

E. G. Slesinger. Surgery of the sympathetic system. *Medical Forum*, 1934, ii, 85.

John A. Ryle. Prognosis of lobar pneumonia. *Lancet*, 1934, ii, 155.

St. G. B. Delisle Gray. Injection treatment o reducible hernia (Abridged). *Proc. Roy. Soc. Med.*, 1934, xxvii, 1289; Sect. Surgery, 29.

Russell J. Reynolds. Treatment of chronic myeloid and lymphatic leukæmias by X-rays. *Med. Press and Circ.*, 1934, clxxxviii, 171.

—— Demonstration lecture on X-ray cinematography. *Proc. Roy. Soc. Med.*, 1934, xxvii; Occasional Lecture, pages 1-6.

Birth

GRASBY.—On July 19th, 1934, at Stanmore House, St. James's Road, Tunbridge Wells, to Margaret Elizabeth, wife of E. Dudley Grasby, M.B., B.S., M.R.C.S.—a son.

Marriage

FISHER—ORFORD.—In May last, A. E. Fisher, B.D.S., to Olive Gertrude, daughter of Mr. A. C. Orford, of Liverpool.

Deaths

FLOYD.—On July 12th, 1934, at Rendebosch, Cape Town, Walter Floyd, aged 59. Qualified L.D.S., R.C.S. (Eng.), 1897, and served in the East African Campaign during the war.

PEMBREY.—On July 23rd, 1934, at Oxford, after an operation, Marcus Seymour Pembrey, M.A., M.D., F.R.S. Aged 66.

Eds. { D. P. K. P. W. C.

GUY'S HOSPITAL GAZETTE

A Journal of Medicine, Surgery, Dentistry and Hospital News.

PUBLISHED FORTNIGHTLY.

Volume XLVIII 18*th August* 1934 *Number* 1202

PASSIM

OUT of the combined University Entrance Scholarship has grown a proposal for the closer co-operation of the hospitals concerned. The main object of this proposal is to ensure a close connection between the three large medical schools for the benefit of medical education in London.

For that purpose a combined committee, composed of five representatives each, from Guy's, Bart's and St. Thomas's, has been set up. We feel that the interests of medical education will be better served by whole-hearted co-operation than by unnecessary competition.

The committee will discuss curricula, courses and examinations, and endeavour to come to agreement on any problems that arise. The results of their deliberations will be communicated for approval to the governing bodies of each school.

It is hoped that it will prove possible in such classes as the Primary F.R.C.S. and the M.R.C.P. to arrange combined courses which will be conducted by teachers of the three schools and open to students of them. Such an arrangement would result in better and more varied courses, and lighter work for the teachers concerned, who would then not have to devote hours to classes often only of three or four students.

It is intended to proceed slowly at first, and as an experiment clinical demonstrations are going to be held at Bart's for St. Thomas's men and at St. Thomas's for Bart's men. If these demonstrations are satisfactory, reciprocal arrangements will be extended to Guy's. The intention is to throw open such classes as clinical lectures for the use of the final-year men of these hospitals.

As at Bart's there are about 120 and at St. Thomas's and Guy's between 60 and 70 each who can be called final-year men, too full or rapid extension would result in hopeless overcrowding at the more popular demonstrations of all the hospitals. Extension of facilities will depend on the smooth working of those already granted, and will be limited by obvious restrictions, and the necessity to suit all parties.

The relations of the London Medical Schools before the war were marked by relatively little attempt at co-operation. Each was isolated, and rather tended to be concerned with its own interests than the wider ones of medical education. Since the war, and especially since the State subsidies have improved the financial position of most of the schools, there has been, with certain well-known exceptions, a disappearance of the spirit of cut-throat competition.

The partial return to the days of a hundred years ago when the wards of St. Thomas's and Guy's were open to students of both hospitals should be welcomed.

▭

IT will come as good news to many that the Clubs' Union has been able to purchase the lease of the vacant property adjoining the present sports ground at Honor Oak Park. The new piece of land is five acres in size, and if all goes well will be ready for use in the autumn of 1935. It is planned to lay out a rugger field, a hockey field and a cricket pitch. For many years the Hockey Club has been at a distinct disadvantage as regards a suitable playing ground, and, in view of the increasing membership of the Hockey Club, the prospect of obtaining a ground at Honor Oak Park will be received with enthusiasm by many members of the Clubs' Union. The present condition of the new ground is by no means satisfactory. The soil is of not very good quality, and the dry weather we have had up to the present has considerably handicapped those working on the ground. There is still a great deal to be done as regards drainage and clearing the land of weeds.

IT is hoped that the barge of the United Hospitals' Sailing Club will be ready by the end of this month for Burnham week. The barge will be moored at Burnham, near the Royal Corinthian Yacht Club. The Hospital Sailing Club has a bigger membership than that of any other hospital, and the Clubs' Union have contributed largely to the cost, which amounted to £700, of buying and converting the barge. There will be a saloon and accommodation for bunks on board. Those who like their sailing mixed will be disappointed to hear that there is to be no Ladies' Room; others with experience of hospital clubs will view this omission with relief. Eight dinghies are owned by the United Hospitals' Sailing Club, and this opportunity for sailing should be welcomed by those members of the Hospital Club who were first drawn to it in order to attend one of the best club dinners of the year.

We should like to congratulate the Commodore of the Club, Mr. W. H. Ogilvie, on his three wins during Cowes Week with his Sharpie "Thomas Guy."

The Ogilvie Cup race will be held at Burnham on Sunday, 19th August.

JUDGING by the rate at which tickets for the "Ball of the Future" in aid of the Hospital are being sold even at this early date, it seems probable that the efforts of the promoters will be well rewarded. We advise those who intend to go to the Ball to purchase tickets as soon as possible. They are £2 2*s*. each, and include a champagne supper as well as a running buffet. Tickets may be obtained from Miss Margaret Maclean, 7, Park Lane, W.1.

ANOTHER Residents' "going-off" dinner has just gone by, and on the 16th of this month many familiar faces will be missed. The departure from the Hospital must always be attended by a certain amount of tension on the heart-strings, for, although the life here is often a hard one, and sometimes a thankless one, it most surely has its compensations. In after life it is the compensations which will be remembered and treasured. We must take the opportunity of congratulating Mr. Robin on his election as President of the Residents and Mr. Kilpatrick as Vice-President.

WE wish to congratulate Mr. J. C. Colbeck on winning the Adrian Stokes Memorial Travelling Fellowship. The Fellowship is a valuable one and was open to the University of London. Under its conditions Mr. Colbeck will spend six months of the coming year doing bacteriological work at a Continental University—probably Freiburg.

A WARNING is given to those old Guy's men who wish to start their sons at the Hospital for the First M.B. in October. There has been such a large entry that very few vacancies remain, and it is urgently necessary for those wishing to enter the Medical School to communicate at once with the Dean.

Carcinoma of the Large Bowel

A Clinical Lecture by W. D. Doherty, Esq., M.Ch.

GENTLEMEN,—I have recently seen several cases of carcinoma of the large bowel which illustrate well the marked variety of symptoms produced by growths in different segments of the bowel. I propose to start this lecture by considering carcinoma of the rectum.

This is by far the commonest portion of the large bowel to be affected by carcinoma; in fact, it is only second to the stomach in order of occurrence in the whole gastro-intestinal tract. It occurs more commonly in men than women in the ratio of about 3 to 2, and the average age at which symptoms first appear is between 50 and 60 years. The commonest site for the growth in the rectum is the upper part near the junction with the sigmoid, only a very small proportion occur in the anal canal.

Histologically, the growths in the rectum are adeno-carcinomas; those in the anal canal, squamous-celled carcinomas.

The majority of growths rapidly ulcerate through the mucosa and spread locally, but distant metastases are, as a rule, late.

CASE 1.—Male, age 72 years. No previous illness, always healthy. Bowels open once daily. First symptoms were noticed about 12 months ago; he found that on rising in the morning he had an immediate desire to go to stool. He, however, only passed a very small motion at this time, and had his normal motion after breakfast. He was all right during the day, with an occasional extra motion in the evening.

During the next few months he had bouts of diarrhœa lasting a day or two; he got some medicine from a chemist which temporarily relieved this symptom. Gradually these symptoms progressed, however, and the diarrhœa became more frequent until he eventually consulted his doctor.

He was then complaining of an almost constant desire to go to stool, feeling as if his rectum was never empty, but passing only a small motion and getting no relief.

He also complained of pain in the back, weakness in the legs, loss of appetite and weight.

Examination.—Abdomen somewhat distended, nothing abnormal on palpation of abdomen. Per rectum, a hard ulcerated mass to be felt in the posterior wall at the tip of the finger. No evidence of any secondary deposits.

At operation this mass proved to be a carcinoma for which a colostomy only was possible.

I would call your attention to certain important points in this history :—

1. A change in the normal bowel habits. I hink this is the most important symptom, and its occurrence should always call for a most searching physical examination.

2. Spurious diarrhœa. Although this man complained of frequent call to stool, yet he was distended and had evidence of chronic obstruction. The irritation of the growth in the rectum produces the desire to defæcate in an attempt to expel the irritating factor.

3. Bright blood in the stool. This is not mentioned in this case, but is a very common symptom in carcinoma of the rectum.

Let us now consider carcinoma of the colon proper. This may occur in various segments, but the two mobile portions sigmoid, and cæcum and ascending colon, are most frequently invaded. I would place the segments in the following order for frequency of occurrence: (1) Sigmoid; (2) cæcum and ascending colon; (3) transverse colon; (4) descending colon; (5) hepatic and splenic flexures.

When considering the type of growth and the symptoms produced, it will be remembered that the right half of the colon is developed from the mid-gut; it is supplied by the superior mesenteric artery, and its function is much the same as the small gut, *i.e.*, digestion and absorption.

On the other hand, the left half is developed from the hind gut; it is supplied by the inferior mesenteric artery and its function is one of storage and evacuation.

It is not strange, therefore, that the type of growth and the symptoms produced vary considerably on the two sides.

Growths on the right side of the colon are usually large, bulky, ulcerating adeno-carcinomas, but, in spite of their size, they do not tend to produce obstruction because the diameter of the bowel is proportionately large in this region and the content of the bowel liquid. Further, the growths do not tend to encircle the bowel.

Growths on the left side, however, are usually small schirrus adeno-carcinomas which start at the mesenteric border and gradually encircle the bowel. The lumen is narrow and the content solid, so that they rapidly produce obstruction. As in the case of the rectum, the spread is into the local lymphatics and distant metastases occur late.

CASE 2.—Carcinoma of cæcum. Female, age 66 years. For the last six months has complained of vague dyspepsia and more latterly of irregularity of the bowels. On occasions she has had four or five liquid motions per diem. During the last three or four weeks she has had a certain amount of right side abdominal pain with loss of appetite and the diarrhœa has been most severe.

On examination, a tumour the size of a cricket ball can be seen and felt in the right iliac fossa. It is hard, mobile and slightly tender. There is no abdominal distension, and the rectal examination is negative.

An X-ray examination following a barium enema shows a gross filling defect in the cæcum and ascending colon.

Laparotomy reveals the growth with some enlarged glands in the mesentery, but no evidence of secondary deposits elsewhere.

The lower end of ileum cæcum and ascending colon with mesentery were resected and the proximal ileum inserted into the transverse colon. Patient made an uninterrupted recovery.

This history is typical of carcinoma of the right half of the colon, and I would call your attention to the following points :—

1. A change in the normal bowel habit. In this case true diarrhœa, not spurious as in carcinoma of the rectum.

2. Dyspepsia. This is a constant symptom, and may be the only one for some time.

3. Palpable mass in the abdomen. The tumour is more easily felt in the right half, and has been mistaken for an appendicular abscess, or *vice versa*.

4. Anæmia. Although this symptom is not mentioned in this case, it is a very constant one, being due to bleeding and toxic absorption from the large surface area of ulcerating growth.

CASE 3.—Carcinoma of sigmoid colon. Female, age 68 years. Had always suffered from constipation, but takes purgatives regularly, which relieve the trouble. During the last six months has had a good deal of abdominal discomfort, and finds that she has to take larger doses of purgatives in order to get a good action of the bowels. This results in the motions being loose for a day or two and then constipated. Latterly she has had to take purgatives every night, or she would not have an action.

She complains of attacks of colicky pain in the lower abdomen, which are relieved by the passage of flatus.

Appetite is good, but she gets a feeling of distension after meals. No loss of weight. No previous relevant history.

Examination reveals a rather distended abdomen. There is definite tenderness on deep palpation in the left iliac fossa and a suggestion of a tumour to be felt in that region.

On pelvic examination the rectum is empty, but " ballooned." No tumour to be felt.

X-ray examination after a barium enema reveals a tight stricture in the pelvic colon beyond which very little barium passes.

At laparotomy a small schirrus carcinoma of the pelvic colon was found. This was excised, together with adjoining mesentery and glands, and an end-to-end anastomosis performed.

The operation was performed in two stages, and the patient is now convalescent.

I would like to call your attention to the following points in this case :—

1. A change in the normal bowel habit. In this case progressive constipation.

2. Evidence of chronic obstruction, *i.e.*, abdominal distension and colicky abdominal pain.

Further evidence may be obtained by the position of the distended coils of bowel and the occurrence of visible waves of peristalsis.

To sum up, therefore, it will be seen that in all cases of carcinoma of the bowel the first symptom is associated with some alteration in the normal bowel habit. In the case of the rectum, spurious diarrhœa; the right half of the colon, true diarrhœa; and the left half, progressive constipation.

Other symptoms are soon superimposed, but I wish to impress upon you the importance of these early symptoms as it is only by a thorough examination at this stage that the diagnosis may be made.

Early operation before obstructive symptoms have developed gives every chance of a radical cure.

The Eye in Migraine

By I. G. Robin, Esq., M.B., B.Ch.

(*concluded*)

OPHTHALMOPLEGIC MIGRAINE

It has already been stated that this disease was considered as a subdivision of Migraine, with motor instead of sensory paralysis. It was first recognised in 1864 by Moebius—centuries after ophthalmic Migraine was a well established disease; whether this was due to its non-existence or to a different diagnosis by the ancients, one cannot tell. But lately a revision of ideas has occurred, and it is now considered highly doubtful whether it is due to a pathology comparable to that of true Migraine. This is due to the fact that in almost every case some organic lesion is found which could account for the symptoms and signs.

ÆTIOLOGY

There is usually no relation between this and the ophthalmic type, although Foster Moore mentions cases of the latter which develop into this motor paralytic type after an unusually severe attack. It is a definite patho-physiological disorder, with localised lesions, where the mechanism operating may be similar to that in the ophthalmic type, but the underlying basis is not the same.

The following differences between this and the ophthalmic type are noteworthy :—

The age range for commencing the attacks is much greater; it may start as early as the first year or as late as the fiftieth.

There is a well defined type with no aura. Sometimes the headaches precede the attack of paralysis by long intervals and then are not typically migrainous in character, being more localised and behind the eye or in the occipital region.

The recurrence of the disorder is more variable and is usually at very much longer intervals.

It is apt to be followed by permanent ophthalmoplegia.

All cases coming to autopsy—of which there are relatively more than of the ophthalmic type—have shown definite organic lesions near or in the oculomotor nerves, such as aneurysms.

SIGNS AND SYMPTOMS

In the vast majority of cases there is no visual aura comparable to that of ophthalmic Migraine, and, following a headache and occasional feeling of nausea, a paralysis occurs which involves muscles supplied by the third cranial nerve and more rarely by the fourth and sixth. (The result-

ing loss of function is usually complete, and therefore it is an actual paralysis and not a paresis.) This paralysis comes on either gradually with a slow spread from muscles to muscle, or quite suddenly; it is usually limited to one side, and always occurs on the same side as the headache; it is generally, but by no means invariably, constant in one eye in every attack.

EXTENT OF PARALYSIS

Most observers are agreed that the palsy more frequently affects the third nerve and especially the external branches (thus resulting in a divergent strabismus and ptosis); more rarely the internal branches are involved, too (causing a dilatation of the pupil and absence of reaction to light or accommodation). Occasionally the fourth nerve and the sixth nerve may join in the picture, or, in very rare cases, be involved alone; convergent strabismus occurs if the fourth nerve is affected, and inability to rotate the eye outwards and downwards if the sixth nerve is paralysed.

On the other hand Collier says that the sixth nerve is most commonly paralysed. Troemner described a case with the internal fibres of the Oculomotor nerve only paralysed. Purves Stewart mentions that the ophthalmic division of the trigeminal nerve is "often" involved as well, causing a parathesia over its area of distribution; he claims this as a strong point in favour of the presence of a causal inflammatory affection of the meninges around the sphenoidal fissure

The ocular signs and symptoms thus vary with the exact position and degree of the paralysis. The first step in a diagnosis is an exact knowledge of the mechanism of strabismus and its resulting diplopia, of which the patient complains. Since the oculomotor nerve is the one generally affected, the results of paralysis of it alone will be briefly considered.

The paralysis is unilateral and the resulting strabismus is due to the relative overaction of the intact muscles. Thus, in a complete extrinsic palsy the superior palpebral, superior rectus, inferior oblique, inferior rectus and medial rectus muscles are all paralysed and the superior oblique and external rectus muscles are left in complete control; the result is ptosis and deviation of the eyeball laterally and somewhat downwards. In complete nerve paralysis there is, besides the ptosis, an overaction of the frontalis muscle on that side causing the eyebrow to stand on a higher plane. This squint is quite different from the bilateral simple convergent type seen in high hypermetropia, which is spasmodic or concomitant; or the divergent type in high myopia. The eyeball is not only held in this position, but is totally unable to move inwards or upwards. When some muscles escape from the third Nerve paralysis, different positions are taken up. As contrasted with spasmodic squints, this paralytic type may only become visible when the patient looks in a direction requiring the action of the paralysed muscle. The patient may not suffer from double vision if the diseased eye cannot be opened, but false images will be present if the eyelid is raised at all. The diplopia may be quite noticeable to the patient without any obvious squint.

Although important as a basis for subjective diagnosis, in actual practice the presence of false images is difficult to observe accurately, because of the complicated relations of the several external muscles and their component forces. The observation is only of real use when a single muscle is paralysed, as then a clear cut picture is described by the patient. The procedure is to determine the territory of the double vision (which corresponds to that of the action of the paralysed muscle), or the direction in which the disparation of the images increases most markedly. The false image is accelerated in the direction of the action of the muscle.

The type of paralysis described is infranuclear in character, that is, in the nerve trunk itself; supranuclear and nuclear paralysies do not occur in this condition. Differentiation can be made, but it is often difficult. In the supranuclear type both eyes are affected, and conjugate deviation occurs and reflex nystagmus is preserved. In nuclear type both eyes may be affected, and other nuclei, such as the facial are involved too, causing paralysis of the orbicularis oculi muscle. Cases in which paralysis of intrinsic muscles have been demonstrated are, in the light of recent work, most probably only examples of the "myotonic pupil."

A combination of the extrinsic and intrinsic muscle palsy, as in the total ophthalmoplegia of the third nerve, gives a clinical picture of ptosis, divergent strabismus and a large fixed pupil (see Case 8). This combined type of palsy is the commonest in ophthalmoplegia migraines.

In this type, as compared with the ophthalmic, the pathology is not difficult, although it may be obscure in some cases; as stated, this has led to the belief that the complaint should not be labelled as Migraine at all. But although the cause of any permanent paralysis is frequently found, it is still obscure how nearly all, for some time, and a large number of cases for all time, have only a transient paralysis.

The clinical findings sometime reveal or suggest various pathological lesions. There may be a neuritis involving the nerves passing through

the sphenoidal fissure and there may be a plastic exudation around them, or a fibroma or fibrochondroma on the nerve trunk. Vascular lesions occur. An aneurysm of the circle of Willis has been described quite frequently; but thrombosis and hæmorrhage in the mid-brain are unlikely because of the unilateral distribution of the palsy and the occurrence of relapses of the identical condition. The blood pressure may be high; Konstam mentions a case with a systolic pressure of 240 mm. Hg. and Parkes Weber has observed an erythematous patient with Migraine.

DIFFERENTIAL DIAGNOSIS

It will be readily appreciated that the diagnosis of ophthalmoplegic migraine may be a dangerous one. Nowadays it is very rarely made and only after the fullest clinical examination. Only when a unilateral ophthalmoplegia recovers completely between attacks and no organic signs are discovered is the case labelled as "migraine"; even then the patient should be carefully watched and the diagnosis mistrusted.

The diseases which must be excluded before the final diagnosis is made are numerous. The physician and ophthalmologist must have in mind the various forms of cerebral syphilis and especially basal gummatons menigitis. Brain and nerve trunk neoplasms, tuberculous meningitis and multiple sclerosis are all common sources of error. Otorrhœa and nasal discharge rarely produce similar signs, but have been known to cause confusion. At first sight and thought only are the transient, but more regularly recurring, ptosis and strabismus of Myasthenia Gravis like those of migraine. The intrinsic ocular musculature is here not affected (Symonds). Lastly, it is interesting to note that Collier, amongst other observers, draws attention to the recurrent transient ophthalmoplegia, of extrinsic type, seen in certain cases of peripheral neuritis. There may be no involvement of other nerves; it is usually, but not invariably, bilateral.

Such, then, are the two kinds of migraine affecting the eye. "Migrainous neuralgia," with aching and stabbing pain felt behind the eye, is too indefinite an entity for us here to seek its relationship to the eye. Although this paper is only a review of the current knowledge of migraine as it involves the eye, it is instructive, before discussing this, to glance through the notes of examples from a brief series of cases seen in ordinary hospital practice.

SERIES OF CASES

Seventy-nine patients diagnosed as suffering from migraine were seen. Of these 51 had ocular symptoms (this makes an exaggerated percentage of the whole). The sex ratio was 27 males to 52 females in the whole group, whilst it was 20 males to 31 females in the ocular group. The average age of starting the attacks was 23. A family history of headaches and true "sick-headache" was obtained in 36 cases; a history of asthma in the family was present in eight, and in the patient in three, instances. The eyes had been previously tested in 18 cases and 15 of these were already wearing glasses for "eyestrain." The number of ophthalmoplegic patients was only 3, 2 of whom were males. In one other case, that of a female aged 45, a unilateral strabismus was discovered, together with astigmatism; but this caused no diplopia and had been present since childhood. A history of epileptic attacks, or a suspicion of them, was discovered in four and a family history of epilepsy in six cases; an hysterical element was observed in at least three patients.

A satisfactory and complete examination was not obtained in all cases. The blood pressure was estimated in only 49 cases; in two of these the systolic pressure was more than 150 mm. Hg. There was a great discrepancy in the results of the examination of the eyes, and it is impossible to make exact statements as to the condition of the fundi and to the refractive index. Much more original work needs to be done on this subject. In the above sequence of patients it was found that only four had a degree of myopia exceeding 3 dioptres, and two a degree of hypermetropia exceeding 2 dioptres. In about 10 per cent. of the cases there was a cylindrical error discovered. Degrees of myopia and hypermetropia less than 1 dioptre were present in almost equal numbers, being seen in about 15 per cent. in each. The myopia was corrected fully with lenses, whilst the hypermetropia was half corrected in some and neglected in other cases.

The "follow-up" of the cases has not been conclusive. This is because there has not been a long enough duration between time of attendance with prescription for glasses, and the present time, to discount for the seasonal periodicity of the attacks. Thus all that can be stated here is that there are indications that migrainous persons show a slightly greater incidence in refractory errors than a control group of normal cases and that correction of these may help in alleviating the attacks.

The following abstracts are from a few illustrative cases :—

Case One. C. S., female aged 27. Thirteen years history of "attacks" with headache: consisted of blurred vision affecting the left more than the right side of the field at first: then complete loss of vision on the left side, followed a few minutes

later by loss of the whole visual field. Also had numbed feeling in the left hand. Half an hour later she had headache and vision returned gradually.

No family history.

No associated disorders.

EYES : Fundi normal. No error of refraction. Fields normal. Acuity normal.

This patient had the subjective symptom of having " the left eye go blind before the right."

Case Two. P. R., male, aged 33. There was a seven years history of " attacks " with right-sided headache : consisted of a series of flashes of bright light " in the left eye." Never coloured : followed by blindness of the left visual field lasting half an hour.

Attacks precipated by bad petrol fumes at his work.

No family history.

EYES : Pupils normal. Fundi normal. Fields normal. Refraction normal. Acuity normal.

Case Three. S. M., male, aged 52. Eight years history of attacks of headache and typical " fortification spectra " : a series of bright blue lights lasting half a second each, coming from below " upwards and opening fan-wise." Later these persisted " at the edge of the fan " and there was a scotoma as a " dark spot in the centre " : in a quarter of an hour the field cleared and the headache came on.

Noticed himself that he felt particularly well before the attack.

No family history.

Pupils normal. Fundi normal. Fields normal.

Refraction R. 0.75 | 90 L. 0.75 (0.5 for wear.) | 90

Acuity normal with lenses.

Case Four. D. E., male, aged 35. An intelligent worker in the City who for eight years suffered from attacks every autumn and spring on every Friday morning. An attack started when he was on his way to the office as black spots floating over his eyes and " everything seemed to dance " before him : then he could not see the centre of his paper and objects around him appeared double. After 15 minutes this wore off and he was left with a very severe rightsided headache, which lasted all day and was accompanied by vomiting.

For the last five years the patient had had definite asthmatic attacks every spring. During childhood he suffered from typical migrainous vomiting.

Family history : both parents had migrainous attacks.

EYES : Pupils normal. Fundi normal. Field normal except immediately after an attack, when slightly restricted.

Refraction R.E. 0.25 sphere. L.E. 0.5 sphere. 0.5 cylinder. 0.5 cylinder.

Acuity normal with lenses.

The patient wore glasses fully correcting these errors for all close work.

Case Five. F. D., female, aged 52. Complained of " attacks " with headache for the last 20 years occurring every three weeks.

An " attack " started with the patient " seeing an enormous cat " pass rapidly from low down on her right side, " round her from front to back." There was no difficulty in reading and the patient felt well till next day, when the headache commenced on both sides and then settled on the left side.

Chocolate and fatty foods precipitated an attack.

The patient had had " bilious attacks " in childhood and exophthalmic goitre when 18 years old, which was cured by medical treatment. No asthmatic attacks. Normal menopause at 42—45 years.

The family history revealed that both the patient's two children had asthma.

EYES : Pupils normal. Fundi normal Field normal.

Refraction R.E. 2.25 sphere. L.E. 1.5 sphere. 0.5 cylinder.

The patient was myopic but acuity, with glasses, was normal.

Case Six. E. L., female, aged 28. From the age of 17—20 the patient suffered from typical epileptiform attacks, with no visual aura. She now had for the last six months attacks of blindness in the left half of the field of vision following the appearance of yellow dots in front of the eye. This was followed by a right-sided headache.

No abnormality found on examination. This patient's history illustrates a condition where epilepsy has, presumably, given place to typical migraine, although an organic lesion (such as a slow-growing tumour) cannot be ruled out completely.

Case Seven. M. B., female, aged 35. The case illustrates the association of hysterical manifestations which are confusing to a diagnosis.

During the last month there have been four " attacks " of a sensation of " revolving lights in front of the left eye " for 15 minutes (accompanied, from the beginning, by headache on three occasions). The patient has also had a spastic inversion of the left foot and paresis of the left leg during the attack. The headache persisted for two days. On two occasions the light had taken the form of a revolving " pansy."

On examination the patient showed no ophthalmic abnormality except for a false ptosis due to swelling of the left upper eyelid. There was a slight functional weakness of the left leg.

Acuity R.E. $\frac{6}{6}$ — L.E. $\frac{6}{9}$

Fundi normal.

Case Eight. This patient demonstrated the ophthalmoplegic type of migraine.

A. T., aged 25: complained of paroxysmal right-sided headache and vomiting, followed by diplopia and a squint of the right eye. The history was of a fall on the back of the head when aged three and four days after that the patient had a right-sided ptosis and a squint. Since that date there had been " attacks " about every six months, with no relation to menses but perhaps to mental worry. Every " attack " was the same—a right-sided headache, without any aura, which was of a continuous aching character: after this had been present for two hours vomiting of a severe nature started and at the same time ptosis of the right eyelid was noticed; this was followed a few minutes later by an external strabismus of a paralytic character. The headache lasted four to five days. This gradually diminished and the vomiting ceased and then the headache finally disappeared after localising in the right eye. The eye gradually recovered within the next two weeks, and was normal again in about two months: during this time there was continuous diplopia.

No family history of any importance.

No previous illness.

Examination revealed a normal left eye: the right side had a marked ptosis and external strabismus. All movements of the right eye were absent except a slight outward one. The pupil was dilated and slightly excentric and absolutely fixed to light and accommodation. The right corneal reflex was diminished.

Visual acuity R.E. $\frac{6}{6}$ — with glasses.

Visual acuity R.E. $\frac{6}{18}$ — without glasses.

L. E. can see and count fingers only.

Fields: these were slightly diminished but within normal limits.

Fundi: both discs were pale.

All examinations pointed to the absence of any organic cause and a diagnosis of migraine was made.

DISCUSSION

The rather lengthy and elementary study of the two types of ocular migraine which have been presented here has in purpose its more clear definition and an attempt to reach a clear and concise understanding of the subject. It can at least be said that both ophthalmology and general medicine have placed migraine past the stage when Frascatorius could have remarked, as he did of the action of the heart, " It is only to be comprehended by God." But one could, in truth, apply to this subject Clifford Albutt's quotation about arteriosclerosis, " Our path is cumbered with guesses, presumptions and conjectures, the untimely and sterile fruitage of minds which cannot bear to wait for the facts and are ready to forget that the use of hypothises lies not in the display of ingenuity but in the labour of verification." Nevertheless it is not too bold to boast that the ocular symptoms do give some " presumptive " evidence which is exceedingly valuable and the study of which will not be labour in vain, even if not in actual " verification."

The relationship of the two types of migraine affecting the eye must be considered. Can a common cause be underlying both? If so, this discussion can take a more simple trend and can be much abbreviated. It has been previously somewhat stressed that the ophthalmoplegic type has an organic basis—meaning one with a definite pathology—in a large number of cases. The confusion of ideas about this rare paralytic form is due to the fact that many cases are diagnosed as such on as few as two transitory attacks. This is obviously an erroneous procedure. But it is the general opinion that in certain instances there is a definite association between it and the ophthalmic form. There can be no getting away from the fact that certain persons with a family history of " sick-headache," do develop the paralytic form after previous attacks of typical ophthalmic migraine—and have numerous attacks of this new complaint. This is highly suggestive. But there is further help yet. On certain very rare occasions an autopsy has shown no " organic " change at all except a flattened oculomotor nerve on the side of the palsy; this flattening occurred exactly at the site where the nerve is crossed by the posterior cerebral artery. The modern theory of spasm of vessels could therefore be conceived as a direct factor in this paralysis, although, and this point must be emphasised, the actual form of nervous involvement shows an entirely different mechanism from that operating in ophthalmic migraine, where the nerve affection is at the central end of the pathway. This is the view that Bramwell takes, although he adds that the majority of transitory ophthalmoplegias are due to a " leaking " aneurysm. That transient pressure on a nerve can produce paralysis is shown in lesions elsewhere

in the body (*e.g.*, the ulnar nerve). Transient pressure, whether from aneurysm or from hardened artery, appears to play a part in the production of attacks of ophthalmoplegic migraine.

Ophthalmic migraine, on the other hand, is held to be due to spasmodic constriction of cerebral vessels. It was formerly believed by physiologists that these, unlike other arteries in the body, were unable to undergo changes in calibre. This view has been proved erroneous by many modern observers. Although it is generally agreed upon that arteries which go into spasm later undergo degeneration, there is no evidence that migrainous patients show abnormal arteries at autopsy or die from cerebral hæmorrhage. But the conclusion that the causation of migraine is angiospasm is not absolutely definite. Liveing conceived the idea of a pure nerve storm and certainly the occasional relationship with epilepsy is suggestive, as is the effect of sedatives, in comparison with that of vasodilators, in warding off an attack.

Whatever the cause there is no doubt that it is the cerebral cortex itself which is stimulated. The delicate sensory cells in the region of the Calcarine fissure are irritated, then inhibited, either by anoxæmia or direct nervous stimuli. That a transient paralysis of a nerve cell can occur without permanent damage has been proved in many instances, such as in acute poliomyelitis. The study of the visual phenomena is so interesting because it bears out Hughlings Jackson's views on cortical stimulation. In those cases which show slow spread of irritation or inhibition from cell to cell, the origin is in, or just beneath, the cortex; the spreading scotoma and " fan-like " spectra in migraine are illustrative of this. On the other hand, the sudden onset of a massive scotoma indicates the origin further afield and far below the cortex. Consideration of the actual forms taken by the irritative visual phenomena is unnecessary. They are so multitudinous and bizarre and obviously the result of grey matter stimulation. Adrain has shown that when any neuron is stimulated waves of impulses are sent out along the axon; varying frequency and length of wave, caused by differing grades of stimuli, produce different sensory effects at the periphery. Stimulation of a sensory nerve ending and of its ganglion cell produce identical results. The retina itself is therefore only playing the passive role that was suggested at the beginning of this paper.

Lastly—the eye as a Cause of migraine. Is eyestrain a factor in initiating the disease or precipating an attack? Although nothing definite has been proved, the former query is highly improbable, but there is a suspicion that the latter may at least be possible. A refractive error may be one of the many matches to light the fuse. It is therefore a wise procedure for all persons with the " migrainous diathesis " to have their refraction tested; by this means only can slight errors be detected and corrected and the hope raised that the onset of attacks will be delayed, and the size of the prophylatic dose of luminal diminished. " Prevention is better than cure " is a very true adage in the case of migraine.

I have to thank Mr. O. G. Morgan and Dr. C. P. Symonds for their kind permission to make use of their case reports.

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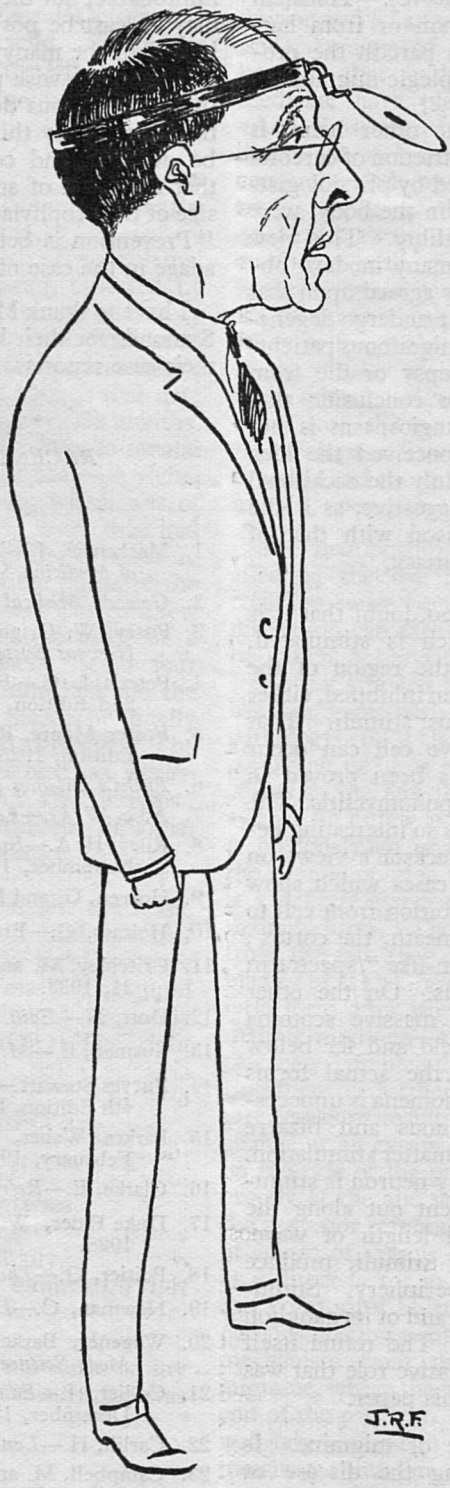

W. M. M.

Correspondence

Common Ailments !

To the Editor of the GAZETTE

SIR,—I should like to benefit the medical profession by a few observations on common ailments which appear to have escaped the attention of the compilers and plagiarists of text-books. They are drawn from a wide experience extending over a period of several weeks.

The Festive Syndrome, associated with the difficult period of Christmas, has already met with adequate treatment in these pages, but there are a number of diseases, common amongst medical students and others, which have been grossly neglected. Further, at least two afflictions may be attributed directly to the popular interest taken in the display of moving pictures. Having given some close attention to a large number of cases, I feel that it is time to publish a few notes on my observations in order that other workers may take up the lines of research indicated.

Picturegoer's Neck.—This unfortunate condition is characterised by the sharp backward tilting of the head, suggesting in appearance a hen drinking. The pupils are dilated and there may be strabismus. These symptoms are generally met with in Scotsmen who have seen a performance through twice too near the screen. Recovery rapidly takes place on hearing a saxpence go bang.

Fanosis.—This is a very common infection, met with in young people of both sexes. The earliest symptom is an increased desire to visit picture palaces, and the patient may be seen regularly to buy film periodicals. In the malignant variety, the walls of the patient's bedroom break out in portraits of stars.

A very obstinate condition to deal with. Effervescing draughts of asafetida t.i.d., or counter-infestation with worms may be tried.

Undergraduate's Neurasthenia appears in some students prior to an examination. Anxiety symptoms, anorexia and vehement pessimism are encountered. This condition is not related to

Student's Bottom, which is met with in most students after 20 minutes of sitting on a plank in a lecture-theatre. There is much restlessness, and maybe Cheyne-Stokes respiration. The trouble has been traced to the ischial bursæ, but no further. The best treatment is prophylactic; the sufferer may carry an air-cushion concealed within his trousers, but he may try putting his weight on alternate glutei, or standing on his head.

Intermittent Nodular Constipation is very common. Jalap and percussion caps are favourite old-world remedies.

Chronic Information of the Brain is a grievous affliction, reaching its climax generally in the sixth year. There may be migraine and weeping.

Lordosis.—Medical text-books give a wholly inaccurate account of this condition. Actually, Lordosis is a disease frequently affecting medical students, the onset of symptoms generally occurring at some time during pre-clinical, or later when the student is allowed to handle lethal weapons such as scalpels in connection with living flesh. Symptoms: Eyebrows rise, stethoscope herniates out of pocket, or even becomes detached and swings about in hand. Speech is usually affected, and there is characteristic gait. Treatment is difficult, but the condition is often relieved spontaneously in from five to ten years. The radical operation is to deprive of all privileges, but a complete stethoscopectomy may give rise to profuse lachrymation.

Viva Diarrhœa is not a Mexican war-cry (the "i" being pronounced differently), but a common variety of diarrhœa occurring before or during oral examinations. Specialists will be pleased to add this to their lists.

Diurnal Tutorial Somnolence.—Acute attacks during lectures. At the onset of symptoms the eyes become fixed and glazed. The other symptoms rapidly follow, depending upon the malignancy of the causative organism. The higher centres are attacked, the breathing becomes stertorous, the eyes close slowly (but in cases of long standing, with a snap), and the patient passes into a coma which generally lasts the rest of the hour. These attacks would probably be fatal were the causative organism more persistent. Treatment is best directed at the cause, for which purpose a platoon of students armed with Flit-guns may be employed.

Benign Relapsing Lethargy is closely related to the above, but is characterised by a series of attacks distributed throughout a single lecture. So soon as the higher centres become paralysed, the causative agent ceases to have effect, and slight stimulus is sufficient to rouse the patient from slumber. These patients differ from the foregoing in being lighter sleepers. Cases have been reported of occasional somnambulance during attacks but recent investigations have shown that these patients have been activated only by the necessity to pass water.

Yours, etc.,

J. R. A.

Guy's Hospital,
S.E.1.

Liquid Paraffin, etc.

To the Editor of the GAZETTE

SIR,—It is interesting to note in "Passim" that the annual consumption of liquid paraffin still stands at 2,000 gallons, a figure more reminiscent of an oil company's share prospectus than anything from a hospital dispensary. Actually, as far as I can see, it is the equivalent of only 584 people taking half an ounce three times a day throughout the year.

However, as an O.P.O. I often wondered how much of the paraffin supplied was drunk and how much was resold to make those little bottles of hair oil one sees about the place. Doubtless other uses can also be found for a refined, high-grade paraffin.

It was, I believe, and doubtless still is, the practice at King's College Hospital to forbid the prescription of paraffin by anyone less than a registrar, and whereas such a proviso would be a great nuisance at Guy's, it would at any rate bring to mind the various laxatives in use before a by-product of the petrol industry was sprung on an admiring medical world.

Outside hospital, it will be noted that a very large number of the chronically constipated can no more afford the fancy prices demanded for paraffin than they can those for emulsio petrol with agar with phenolthalein, and the homely senna pod must do the trick, as mentioned by Dr. Hurst in the *Gazette* not so long ago.

Perhaps it might be feasable for the head dispenser to give a short clinical lecture to men entering the wards on the costs of the various substances which they will see whacked out apparently *ad lib.*

I must confess that I was once a famous slayer of flies with ethyl chloride during long and boring operations, and I virtuously emptied much good ether down the drain because I thought it might be not *absolutely* pure, but I have done neither of these things since I began to pay for my own.

I think it would come as an eye-opener to most men if they were told the prices of, say, ether, chloroform, salmon gut, bismuth, adhesive strapping and dressings.

Yours, etc.,
G. NESBITT WOOD.

45, Wellington Square,
Hastings.

Reviews

An Introduction to Practical Bacteriology. By T. J. MACKIE and J. E. MCCARTNEY. Published by Messrs. E. and S. Livingstone, Ltd., Edinburgh, 1934. Fourth Edition. *Price* 12*s.* 6*d.*

WHEN a book comes to a fourth edition, it is obvious that supply is having to keep pace with demand. And it requires no great skill to appreciate the reasons for the demand in this case. Students have called for a text-book that is readable, of handy size, clearly printed and free from "padding." They are now given further reasons for making this the book of their choice, for the improvements in this edition are definitely useful.

In particular we welcome the division of the book into three parts :—

1. Introduction : (*a*) General biology of micro-organisms ; (*b*) Immunity.
2. Bacteriological technique.
3. Pathogenic micro-organisms and bacteriological diagnosis.

These main headings and numerous other subheadings give the otherwise bewildered student a chance to see the wood as well as the trees. Too often the trees in the shape of dull, uninteresting details of micro-organisms are made to obscure the general view.

The student is also helped by another thoughtful innovation. The less important passages in the book have been put in small print, so that those readers without discrimination will be helped along. But it is on this point of what is important and of what is not that opinions may differ. For example, we cannot believe that a description of the numerical aperture of the lens is of great importance.

There is another criticism we have to offer. We should like to see two omissions remedied in future editions, as both of them are of practical value.

The first is an omission common to most text-books of bacteriology. We looked in vain for the prominent display of that list of micro-organisms which normally inhabit the orifices, secretions and excretions of the body. Students, house-officers, and their seniors would benefit by such information and bacteriological reports would then be looked at in the right light.

The second omission concerns the typing of the pneumococcus. It does not seem to be realised yet that by far the easiest and quickest method of typing the pneumococcus in fresh sputum is the modification of Armstrong's and Valentine's methods introduced by Mr. W. H. Clark, of the Bacteriological Department of this hospital, and published by him in the *Laboratory Journal*, 1933, vii, 126.

Gonococcal Infection—Recent Advances in Pathology, Diagnosis and Treatment. By ROBERT V. STORER. Published by Messrs. John Bale, Sons & Danielsson, Ltd., 1934. *Price*, 7*s*. 6*d*.

DR. STORER explains the object of this short book in the preface. It is "an attempt to explain the principles which should guide the general practitioner in his management of those cases of gonococcal infection which come under his care."

It is, of course, impossible to cover the whole subject of gonorrhœa in the course of 91 pages, but surely it would be of more assistance to the general practitioner to give a clinical description of some of the commoner manifestations of the disease than to devote nearly a half of the book to laboratory diagnosis.

For the rest, the subject is of necessity treated dogmatically, and there are statements with which many will disagree. The author, however, insists quite rightly on the importance of the prostate as a focus of infection, not always necessarily gonococcal.

Three cases are quoted at the end of the book, which are instructive as showing the difficulties that may occur in diagnosis, and the almost incredible stupidity with which these problems are sometimes handled.

E. H. R.

Common Skin Diseases. By A. C. ROXBURGH, M.A., M.D. (Cantab.), F.R.C.P. (Lond.). Published by Messrs. H. K. Lewis & Co., Ltd. Second Edition. The "General Practice" Series. *Price* 16*s*.

THIS is the second edition of a book which in the two years since the publication of the first edition has become universally popular. The book makes no attempt to cover the whole of dermatology, but all the commoner skin affections met with in general practice are described, together with their treatment in adequate detail. The illustrations are uniformly good, and for the most part give an excellent impression of the diseases they depict. A few of the illustrations are coloured. In the present edition the author has added chapters on Congenital Affections of the Skin; Atrophy and Sclerosis; Vesicular and Bullous Eruptions, and the Erythodermias. The book is easy to read and is one that can be recommended strongly to anyone endeavouring to sort out and understand the diseases of the skin, with which he is liable to come into contact.

A Student's Handbook of Clinical Electrocardiography. By WILLIAM EVANS, M.D., M.R.C.P. (Lond.). Published by Messrs. H. K. Lewis & Co., Ltd. *Price* 5*s*.

THIS is a small book of illustrations showing the alterations found in the electrocardiogram as a result of disease of the heart. There are a few introductory pages describing the main principles of the electrocardiogram and how the records should be read. Then there follows a very complete series of typical electrocardiograms obtained in the various well-known cardiac disorders. At the end there are twelve "Test Electrocardiograms for Diagnosis."

The book has been compiled for senior students and graduates working for the higher medical qualifications, and to them it will be useful for reference. It is also hoped that the practitioner may find the book a useful guide to help him understand reports sent to him by cardiologists. To enter into the clinical aspects of any of the cardiac conditions would entail writing a text-book on cardiology, and it is as well to point out that the author has made no attempt to make the book anything but an illustrative one.

Guy's Hospital Gazette

The Editor will, at all times, be glad to consider articles or sketches, provided that they are accompanied by the writer's name and address, not necessarily for publication. The payment that the GAZETTE can offer is merely nominal. Authors who desire reprints of their papers should make their own arrangements with the printers when they return their proofs. All contributions to be addressed to *The Editor*, who does not accept responsibility for the views expressed by contributors.

Sport

Cricket

Guy's v. Guildford

THIS match was played on Saturday, May 19th, and resulted in a draw—very definitely in the favour of our opponents.

Guildford batted first and made 250 for the loss of only three wickets, declaring at tea.

The Hospital saved the game by some excellent defensive batting by Brown, who, in partnership with Wylde, managed to force a draw.

Scores—Guy's, 76 for 9; Guildford, 250 for 3 (dec.).

Guy's

G. M. A. Brown, not out	39
T. D. Ridsdale, run out	4
T. S. Eddy, b. Lambert	0
S. M. Whitteridge, b. Lambert	3
C. G. Wright, b. Dodswell	1
W. E. Greenwood, c. and b. Chalcraft	7
F. K. Johnson, b. Chalcraft	0
E. A. Moore, b. Judd	10
J. M. Pearson, b. Judd	0
W. Wylde, not out	0
E. C. Sharp, did not bat	—
Total	76

Bowling—Whitteridge, 2 for 71; Wylde, 1 for 57

Guy's v. Chelmsford

ON Saturday, May 26th, the Hospital played Chelmsford at Chelmsford, the result being a decisive victory for our opponents. They included Wade, the Essex professional, who laboriously collected 128 and was still undefeated at the tea interval, after which the Hospital were put in to bat.

Scores—Guy's, 126; Chelmsford, 256 for 7 (dec.).

Guy's

T. D. Ridsdale, l.b.w. Pennell	0
G. M. A. Brown, b. Patient	6
R. M. de Gregory, b. Pennell	1
W. E. Greenwood, b. Patient	5
G. V. Doherty, b. Pennell	15
C. G. Wright, b. Clist	0
T. S. Eddy, b. Patient	8
S. M. Whitteridge, c. Siggins, b. Avery	17
A. L. Young, b. Patient	4
H. D. Foster, not out	34
W. Wylde, run out	2
Total	126

Bowling—Whitteridge, 3 for 60; Doherty, 2 for 46.

Guy's v. St. Thomas's

First Round, Inter-Hospitals Cup

ON Tuesday, May 29th, the Hospital played that first round of the Cup *v.* St. Thomas's at Honor Oak Park. A very close game resulted in a win for the visitors by 2 wickets. It was generally admitted that the Hospital were unlucky, through the outstanding doubtful decisions going the wrong way.

Scores—Guy's, 225; St. Thomas's, 230 for 8 wickets.

Guy's

T. D. Ridsdale, b. Schilling	16
G. M. A. Brown, c. Maling, b. Pearson	33
T. S. Eddy, c. Wynne, b. Pearson	5
W. E. Greenwood, l.b.w. Schilling	13
G. V. Doherty, b. Milligan	42
C. G. Wright, c. Carter, b. Schilling	23
H. D. Foster, l.b.w. Schilling	29
R. M. de Gregory, c. Megaw, b. Pearson	19
S. M. Whitteridge, b. Maling	18
A. L. Young, not out	7
E. A. Moore, c. Carter, b. Maling	0
Total	225

Bowling—A. L. Young, 3 for 80; G. V. Doherty, 3 for 63; S. M. Whitteridge, 1 for 36.

Guy's v. Virginia Water

THE Hospital had a distinct purple patch while playing Virginia Water on Wednesday, May 30th, winning by an innings and 139 runs. Foster played a very sound and watchful innings, and Whitteridge went after the

bowling with delightful abandon—hitting up 20 in a single over in an innings of 51 not out. Young also bowled extremely well, taking in all nine wickets for 30 runs.

Scores—Guy's, 253 for 8 (dec.); Virginia Water, 51 and 63.

Guy's

T. D. Ridsdale, c. Blaber, b. Willis	5
G. M. A. Brown, c. Blaber, b. Willis	29
T. S. Eddy, c. Blaber, b. Willis	8
W. E. Greenwood, l.b.w. Willis	7
D. A. Priestley, b. Collis	35
C. G. Wright, c. Foord, b. Arkwright	34
H. D. Foster, b. Blaber	48
R. M. de Gregory, c. Collis, b. Harding	19
S. M. Whitteridge, not out	51
A. L. Young, not out	71
W. Wylde, did not bat	—
Total	253

Bowling—1st innings—A. L. Young, 7 for 21; W. Wylde, 3 for 25. 2nd innings—W. Wylde, 3 for 13; R. M. de Gregory, 4 for 28; A. L. Young, 2 for 9.

On Sleeping in Lectures

IT seems that there are but three reasons for attending lectures: one may go, firstly to imbibe learning, or secondly to ensure that one's final sign-up will be adequate, or thirdly, with the idea of resuscitating one's wasted tissues by indulging in sweet and illicit repose.

The first of these reasons is merely despicable; the second but mercenary; it is in the indulgence of the third that the touch of the artist may be noticed.

Sleeping in lectures is probably one of the oldest arts, and one which has apparently always carried its penalties with it. One is reminded of Eutychus in the New Testament, who blundered in this respect, and was received on Mother Earth's none too kindly bosom, some three stories below.

Confident in technique, and secure in practice, we modern sleepers are apt lightly to dismiss this early performance with the statement that Eutychus was a blunderer; but a little reflection will show that he should be honoured among all pioneers, for, like them, he but paid the price of foreseeing and essaying before the appointed time a science and an art which has grown to become one of the most puissant factors of modern educational life.

For the guidance of the initiate, and for the furtherance of lecture-sleeping as an art—distinct from lecture-sleeping as a habit—a few indispensable features and main principles may be quoted.

The beginner will readily appreciate that for any reasoned attempt at lecture-sleeping to be brought to its logical and successful conclusion, he must commence his operations by making a complete study of all external circumstances with which he is likely to come in contact. His most important decision must be the choice of seat.

"Easy!" I hear him cry; "the back row in the corner." Poor dupe! I have seen more careers ruined by this abominable practice than by any other mistake perpetrated by inexperienced sleepers. He will do well to remember on all occasions that lecturers as a class have but one maxim—it should be writ in adamant, framed in gold, and hung in the Halls of Time for all to see. It runs: The Back Row is Suspect. Confucius uttered it; Shakespeare corroborated it; Experience has proved it.

Yes, the beginner will do well to avoid the back row; only the more experienced of the Faculty may hope there to be successful. For him, tyro that he is, the antepenultimate row.

There, unsuspected and unmolested, he may rest his weary head in his hands and woo sleep with that consciousness of rectitude which follows from the knowledge that his efforts so far have been in the best style and traditions of all the accepted Masters.

When these elementary points have been acquired, the student should turn to the study of Lecturers. This may prove distasteful to him at first, but a closer investigation of their habits will persuade him in time that possibly it takes all sorts to make a world, and what he has always regarded as fearful and wonderful errors of Nature have, perhaps, their allotted sphere of usefulness in this life.

Lecturers, he will note, may be divided into two main divisions:—

1. The Lecturer Bombastic.
2. The Lecturer Soporific.

The technique for these two types is of necessity different. For the first, active defensive measures are indicated. The ears should be plugged with cotton-wool and the eyes closed. This done, the disadvantages of the bombastic delivery must be turned to advantage by the achievement of the correct mental attitude. Project your thoughts to the ocean's marge; there lie and listen to the surging inrush of the sea:—

". . . the accumulated murmur of soft plashing
Of waves on rocks dashing
And searching the sand."

You follow? By this method, even the beginner will win sleep with comparative ease.

In the case of the second type, the whole operation is one of the greatest simplicity—one listens to the lecture. The only difficulty here is that, as everyone else will be asleep, the true artist will contrive to present an interested exterior to the lecturer. This operation is of the greatest technical difficulty, and should be attempted only by fourth-year students.

If these few principles of mine have been noted, the beginner may set out with every confidence on a career which will furnish him with no regrets, and one in which the ultimate subtlety is never reached.

His first effort, it is true, may be clumsy; but let him take heart—*Experientia docet*!

HANK.

Hospital Information, etc.

Pass List

EXAMINATION FOR THE L.R.C.P., M.R.C.S.

Surgery.

Balean, G. T.
*Blazeby, R. H.
Davies, T. F.
*D'Souza, F. H.
Ellis-Brown, R. S.
*Evans, F. I.
Heys, C. F.
Hill, R. C.
Jelly, G. O.
*Noble, W. S.
Paul, S.
Peers, A. L.
*Schott, E. A.
Shuttleworth, C. W. T.
*Sutton, J. S. F.
*Trethowan, L. N.
Weston, F. H.
*Wright, K. H.

Medicine.
July, 1934.

*Hamilton, H. A.
*Barbour, T. L.
Davies, D. A.
*Eddy, T. S.
*Trethowan, L. N.
Jelly, G. O.
Morris, J. F.
Clegg, W. B.
Cresswell, P. E.
*Schott, E. A.

Pathology.

Baxter, W. P. G.
Stevenson, D. P.
Merrill, L.
Mann, W. N.
Potter, F. O.
Lee, F. H.
Lillicrap, C. A.
Elliott, J. E.
Williams, E. H. D.
Davies, D. A.
Jelly, G. O.
*Schott, E. A.
Hill, R. C.
Taylor, F.
Leggett, H. A.
Bell, A. L. W.
Mayer, J. H.
Clark, J. V.
Agranat, B.

Midwifery.

*Schott, E. A.
*Evans, F. I.
Agranat, B.
Jones, E. H.
Finer, I.
Lockwood, J. F.
Paxon, G. E.
Fitch, W. P.
Taylor, F.
Bell, A. L. W.
Mayer, J. H.
Irish, N. W.
Clark, J. V.
Wayte, A. B.
Outred, C. W. F.
Forbes, J. R.
Hills, T. H.
Giesen, J. E.
Tatz, K.
Ebbage, G. B.
Ashman, E.
Williams, I. D. C.
Dale-Bussell, A. P.
Lawson, B.

M.R.C.P.

W. H. Owles, B.M. (Oxon.).

* Have now qualified L.R.C.P., M.R.C.S.

FINAL L.D.S. EXAMINATION.

June-July, 1934.

PART I.

General Surgery.

Beck, R. A.
Bradley-Watson, H.
Cook, H. S.
Dickson, W. G. C.
Drummond, W. J.
Fox, D. P.
Gaterell, J. J.
Gillett, P. F. B.
Goodrich, R. E.
Hexter, H. G.
Hunt, R. G.
Jenkins, O. C.
Leuner, W. F.
Nelson, E.
Parfitt, G. J.
Reynolds, C. A.
Rhodes, H. P. L.
Russell, J. F.
Shrimpton, E. R. L.
Sparg, P. G.
Turner, J. W.
Wigginton, D. J.

PART II.

Dental Surgery.

Baker, K. C.
Barber, R. O.
Carr, J. C.
Greensted, D. A. G.
Heberlein, A. G.
Kanter, H.
Kendall, J. H.
Knight, J. B.
Littleton, W. J.
Machado, B.
Martin, R. S.
Parks, E. J.
Sampson, E. E. H.
Stewart, H.
Thompson, J. L.
Walther, D. P.
Williams, R. A. E.

LONDON UNIVERSITY M.A. (EXTERNAL), 1934.

Mediæval and Modern Languages.

(*Portuguese.*)

Gray, St. George Bernard Delisle, M.B., B.S.
(Awarded a mark of distinction.)

Change of Address

Surg.-Commander K. L. P. Peregrine, R.N., H.M.S. *Revenge*, c/o G.P.O., London.

Birth

BLACKLEE.—On August 12th, 1934, at the Grosvenor Nursing Home, York, to Matt (née Grierson), wife of Ernest Blacklee, M.R.C.S., L.R.C.P.—a daughter.

EDS. { D. P. K.
P. W. C.

GUY'S HOSPITAL GAZETTE

A Journal of Medicine, Surgery, Dentistry and Hospital News.

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PASSIM

DURING the last month life in the College has been very quiet. All those who have been able have been enjoying the pleasures of more delectable parts of the world. There has been the usual painting and cleaning which is customary at this time of the year. There was a rumour that there was to be a repetition of the events of last winter, when the hot water was turned off for a considerable period of time during the renewal of hot-water pipes. We were spared this, fortunately, but the Works Department was not to be so easily satisfied, and successfully managed to dislocate the bath traffic by choosing the busiest part of the mornings to paint the bathrooms. Not content with depriving us of one bath at a time, they worked at them in pairs. We are waiting for the winter time for the rumour concerning the hot-water supply to materialise for the boilers to be scraped.

The Residents are at the moment banished from their room while a new floor is being laid. The old one suffered considerable wear and tear last winter during the wave of enthusiasm for the game of ping-pong. The new floor will be of teak and will add considerably to the natural beauties of the room.

Apart from this change in the Residents' Room, the College will appear very much the same to those returning from their holidays—still the same dear old place. Even the grotesque, mis-shapen pots standing on the mantelpiece in the dining-room are still there, and so is the funny picture on the north wall.

▭

IN these days when X-ray examinations are the *sine qua non* of diagnosis it is unfortunate that some more convenient method has not been evolved for the X-ray examination of cases from the Front Surgery. Much time is wasted by the patient and much money by the Hospital in the filming of patients with quite minor injuries. Supposing we take, for example, the case of a patient who has sustained an injury to the ankle joint. The case is first seen by the dresser, who calls the O.P.O. He, fearing the consequences of missing a possible first degree Potts fracture, send the case for an X-ray examination. One of the nurses or Sister then rings up the Front Lodge for a porter to be sent down to the Surgery. He then, by devious routes, wheels the patient over to the Surgical X-ray department. A film is obtained and, after a period of time, the patient arrives back in the Surgery. Some time later, perhaps half an hour or more, when the O.P.O. obtains a free moment, he walks all the way to the X-ray department to examine the films. He then returns to the treatment of the patient.

The whole thing is ludicrous. As a result of all this palaver the patient is kept waiting unnecessarily, the O.P.O. wastes valuable time, and the Hospital wastes the funds so generously supplied by its benefactors by having two unnecessary films taken of a sprained ankle. We would like to suggest that some simple X-ray apparatus for screening, such as could be worked by the inexperienced hands of an O.P.O., should be placed either in the Surgery or in the Out-Patient Department, so that cases where a fracture is not suspected but is a possibility could be more quickly dealt with. We feel sure that the capital outlay in having such a machine would be quickly repaid by the saving in unnecessary X-ray films; for, as well as injuries around the ankle joint, there

are many injuries of the wrist, metatarsus, metacarpus, phalanges, etc., which at present have to be filmed unnecessarily.

THE number of staff anæsthetists is not so great that house officers do not often feel the need of more. Assistant House Surgeons are particularly affected, and the situation is inveitably aggravated during July and August. At this period, when the anæsthetists take their summer holidays, the inconvenience and extra work thrown on the house surgeons may be considerable. House officers are not alone affected. Clerks attached to the anæsthetic firms under normal circumstances have no cause to feel overworked. During the last month clerks on some of the firms, though officially appointed and presumably being signed up for the appointment, have scarcely given a single anæsthetic; this on account of the absence of their chiefs, whose places were taken by house men, who must, themselves, give the anæsthetics for which they are responsible.

It is, of course, obvious that everyone should have his holiday, but it is unfortunate that some more happy arrangement does not exist. In short, the supply should meet the demand, and there should be sufficient staff anæsthetists to allow of some taking their holidays without clerks being given farcical sign-ups and extra work being thrown on already weary shoulders.

BY the end of the month most of the Hospital will have returned from its holidays. In the dining-room and "Spit" fresh anecdote and jest will add savour to the menu. Amidst such a wealth of material in the Hospital it is anomalous that there should be a dearth of original contributions to the *Gazette*. The wit that is so facile at tea has nothing but enhancement to gain from the wider public offered by its pages. For those who want it, anonymity as complete as that of *The Times* awaits them; those who prefer not to "blush unseen" can have their reputation for jest or dialectic enhanced. Indeed, any who have a story, serious or ribald, should send it to the Editor, to whom contributions from members of the Hospital are very welcome.

IN our last "Passim" we regret that we made an error in our statement with regard to the purchase of the lease of five acres of additional sports grounds. We understand that it was premature to say that the lease had been purchased. In point of fact, the negotiations have not yet been completed, and we offer our sincere apologies for our error to those concerned in the negotiations.

Obituary

MARCUS SEYMOUR PEMBREY

PEMBREY'S sudden death came as a rude shock to his many friends, and particularly to those who had the good fortune to see him in perfect health and happiness in his new home in Oxfordshire.

Marcus Seymour Pembrey was born in Oxford in 1868 as the son of John Cripps Pembrey, M.A., Reader in Oriental Languages to the Clarendon Press and a distinguished scholar. He went up to Christ Church with an exhibition at the age of 17 and proceeded to his degree in the School of Physiology with first-class honours. On the advice of Sir Henry Acland he studied medicine. He was Radcliffe Travelling Fellow and Johnson and Rolleston Memorial Prizeman, had a happy time abroad under Fleming and Rindfleisch, and returned to Oxford as Demonstrator of Physiology under Burdon-Sanderson. He left Oxford as Lecturer in Physiology at Charing Cross Hospital and succeeded Starling at Guy's in 1902.

Pembrey's work attests the depth of his knowledge; he was a specialist in every branch of physiology. Ask him whatever question you would, you always got an immediate *résumé* and the best references to any subject. His published work includes many papers, often published with his pupils and others, together with parts of well-known text-books and a translation of Luciani's "Physiology."

He will long be remembered in committees, at Guy's and elsewhere, for his decided opinions, the candour with which they were expressed, and for his true fighting spirit. And when he told us (and doubtless others) exactly what he thought of us, none who knew him could or would take

offence—for the truth is never offensive, and Pembrey was pretty generally right.

Nothing was more characteristic of the man than his delight in opposition, born of his boundless tolerance. Argument was the breath of his nostrils and the secret of his success as a teacher. For he would treat his rawest pupil as his equal, would give him a patient hearing despite frequent interruptions, and would enlarge his mind with many wise sayings and apt quotations, biblical and secular. The Guy's Physiological Society

was the joy of his heart, and remains the best monument of his qualities and greatness.

For many years Pembrey was an active member as well as treasurer of the Physiological Society. His scientific merit was recognised—somewhat tardily, perhaps—by his election to the Royal Society in 1922.

His memory will long remain green with Guy's men as a teacher and colleague. But there is another side of him no less typical though much less well known, namely, his love of the country. He could abide town life for a short time only and soon went to live at Clewer Green, near Windsor. Thence he went to Wivelsfield, in Sussex, where he farmed his own land. On his retirement last year he settled at Ramsden, near Oxford, and was busily occupied in improving his farm, but hoped to find time for physiological research. It was an education to see him building a wall, ploughing a straight furrow, or gathering his harvest, and a revelation to talk to him when the day's work was done. For in the peace of the fields or the copse he loved so well, the peculiarities that endeared him to us at Guy's would fall from him as a garment, and he would expound his simple philosophy in quiet, simple words. And his philosophy begun and ended with the spirit of his favourite quotation—to be inscribed on his tombstone—"All things work together for good."

He died at Oxford on July 23rd, 1934, in the 66th year of his age of heart failure after an operation, and is survived by his widow, five sons and five daughters, whose loss is shared by all those who knew him.

G.W.N.

Notice

Thirty Club Dinner

The next Annual Dinner of the Thirty Club will be held at the Trocadero Restaurant on Saturday, October 20th. It was suggested at the last dinner that a golf competition might be held on the day of the dinner. Will any members of the Thirty Club who would like to play please communicate as soon as possible with Dr. J. J. Conybeare, 10, Upper Wimpole Street, W.1, in order that arrangements for a meeting may be made. Also will any members who have recently changed their addresses please notify their new addresses. Details of the dinner arrangements will be sent out later.

Osteopathy

A Clinical Lecture delivered on 10th August, 1934, by Dr. A. H. Douthwaite

GENTLEMEN,—In these days in which distance has been annihilated, when pronouncements on one side of the globe are heard on the other within a few seconds, it is not surprising that both the good and the bad of other continents pours into this island and, amongst other things, affects our profession. In the past we have had our own healers—our makers of revitalising electric beds, mesmeric wands and so forth, but they lacked the means of wholesale broadcasting and could be relied upon to die a natural death in the course of a few years. To-day the position is very different. Such is the power of advertisement that any plausible crank can inundate the world with his particular ideas and, if this process be repeated sufficiently often, by sheer force of repetition we find the creed sinking further and further into the minds not only of the naturally credulous, but also of those who have some claim to intelligence. I have only to remind you of the determined move amongst politicians, backed by the press and the public, to admit osteopathy to the state of a science to illustrate my point. Now, if osteopathy were nothing but hocus-pocus I should have no fear of its adversely affecting members of our profession, but of course it is not.

The beginnings of this strange cult are of no small interest. For the following description I have borrowed freely from "Medical Follies," by M. Fishbein, to whom I acknowledge my indebtedness.

Andrew Still, whose parents not inappropriately came from Buncombe County, North Carolina, was born in 1828. He was a man of many parts, having busied himself with the invention of various mechanical instruments and, in fact, developed the automatic reaper in 1855-70. In 186– he took a course of instruction in medicine in Kansas City, but the Civil War interrupted his studies and he never returned to orthodoxy. 1874 is the date when, as Andrew Still put it, "I flung to the breeze the banner of osteopathy." The whole thing originated from his having come across some bones dug up in an Indian graveyard. From his subtle cogitations on these remnants he became convinced that the bones were the most important elements of the body and that the backbone was the bone of all bones in the control of disease. He felt in fact that he had seen the light—that he was the recipient of a divine revelation. Listen to this utterance: "Have faith in God as an architect and the final triumph of truth and all will end well. Osteopathy is the greatest scientific gift of God to man."

Here is his definition of the cult:—

"Osteopathy is simply this: the law of human life is absolute, and I believe that God has placed the remedy for every disease within the material house in which the spirit of life dwells. I believe that the Maker of man has deposited in some part, or throughout the whole system, of the body drugs in abundance to cure all infirmities; that all the remedies to health are compounded within the human body. They can be administered by adjusting the body in such manner that the remedies may naturally associate themselves together. And I have never failed to find all these remedies. At times some seemed to be out of reach, but by a close study I always found them. So I hold that men should study and use only the drugs that are found in his own drug-store—that is, his own body." Note the characteristic of all founders of healing systems—I mean their belief in a private and confidential relationship with the Deity. There is, of course, quite a lot in what Still writes. He expresses flamboyantly the well-known fact that the body tends to recover without the aid of medicine. Nobody will argue with him for this, but the fact remains that if a child with diptheria is left to rely upon its own drug-store it will probably die—if given antitoxin it will live.

Still's faith in his powers was given a fillip by a further incident in 1874. He was walking behind a woman with three children. He observed that one was suffering from a bloody "flux" so severe that blood was visible all along the sidewalk. He says: "I picked him up and placed my hand on the small of the back. I found it hot while the abdomen was cold. The neck and the back of the head were also very warm and the face and nose very cold. This set me to reasoning. I had never before asked myself the question: What is flux? I began to reason about the spinal cord which gives off its motor nerves to the front of the body, its sensory to the back; but that gave no clue to flux. Beginning at the base of the child's brain I found rigid and loose places in the muscles and ligaments of the whole spine, while the lumbar portion was very much congested and rigid. The thought came to me like a flash, that there might be a strain or some partial dislocation of the bones of the spine or ribs, and that by pressure I could push some of the hot to the cold places and by so doing adjust the bones and set free the nerve and blood supply

to the bowels. On this basis of reasoning I treated the child's spine, and told the mother to report the next day. She came the next morning to say that the child was well."

The bloody flux may have been dysentery, colitis, polyp, or what not, for pathology was not far advanced in those days. However, small matter, for from this miraculous cure arose the basic creed of osteopathy, that all disease is due to interference with blood or nerve supply brought about by partial dislocation of vertebræ.

All crank systems of healing must for success be—

(1) linked with the Almighty;

(2) simple and applicable to all maladies.

Cancer, diabetes, measles, gastric ulcer are all due to this hypothetical dislocation of vertebræ. Orthodox medicine cannot offer these simple solutions for simple minds, and so we are reviled by press and peerage. America is the home of all the really powerful crank creeds, because the American mind is brought up on simple systems. Look at their advertisements—systems for house decorating, for mind culture, for increasing stature, for mushroom-growing, etc. These supply the need of the American people, whose power of clear thinking is probably even lower than that of the average Englishman.

But this is where the danger of osteopathy comes in—its adherents are no longer osteopaths—even by 1895 we read of heterodoxy amongst Still's followers. He railed against it, but at the present time the osteopath practises not only spinal manipulation but also massage, electrotherapy, surgery and even gives anæsthetics. He is thus trying to get the best of both worlds—the heterodox and orthodox. He wants to get into medicine by the backdoor, and in the process does his best to usurp the powers and rights of the doctor and masseuse. In all fairness to Still, he did his best to keep strictly to his strange beliefs. For massage he had no use. He wrote: "Osteopathy differs absolutely from massage. The definition of 'massage' is *masso*—to knead, shampooing of the body by special manipulations such as kneading, tapping, stroking. The masseur rubs and kneads the muscles to increase the circulation. The osteopath never rubs. He takes off any pressure on blood vessels or nerves by the adjustment of any displacement whether it be of a bone, cartilage, ligament, tendon muscle, or even of fascia which enfolds all structures; also by relaxing any contracture of muscle or ligament due to displacements, to draughts causing colds, to overwork or nerve exhaustion."

Owing to the increasing complexity of osteopathy the farm-hands, dock labourers, etc., who used to practise the art were driven out from sheer lack of intelligence. Unwilling to see a fruitful source of income denied them they returned to the original osteopathic tenet, and this is Chiropractic. D. Palmer started it off in 1894, and insisted on the spine being the only part of the body needing treatment. His son runs a large college, makes a great fortune, and actually controls his own wireless transmitting station, from which musical programmes are dispensed throughout the day. Each selection is preceded by a dissertation on the cult of chiropractic and refers naively to the trivial cost of a course of instruction.

Dislocated vertebræ—millions of dollars spent on them, and yet it has been shown that a weight of 12,000 lb. will fracture a spine but cause no dislocation. We all know that there is more than enough room for the nerves and vessels in the intervertebral foramina even in the body of a contortionist—yet these are claimed to be pressed upon and to cause all disease. It would be laughable were it not tragic that this sort of stuff is really lapped up by those who control the country's destiny.

The position in relation to the professional masseuse is a very difficult one. They have very loyally, and not infrequently to their disadvantage, agreed to co-operate with the medical men of this country and, in fact, work only in connection with them. You and I know that often the help received from the doctor in charge of the case is quite negligible. Many doctors know nothing of the value of physical treatment, and to them massage is now what it was to Still. The practising masseuse is often faced with the problem of a patient whom she knows she can help by exercises and by passive movements, which are in other words manipulations, yet she dare not give them in the face of instructions for massage. I confess that if I were in the place of a masseuse I should be inclined to regard the term "massage" as a very elastic one and do considerably more than was prescribed. The public often prefers to go straight to the masseuse and expresses annoyance if told that a doctor must also be consulted. For this reason they depart to the osteopath. Now, although many cases of death have arisen from the practice of osteopathy on quite unsuitable diseases, yet we must recognise that the modern osteopath is often a man of considerable sagacity. He recognises the nature of the complaint and is prepared to refuse treatment if he sees danger ahead. In fact, there are some who require a doctor to make the diagnosis before they contemplate treatment. This increasing caution on their part strengthens their position and makes them a greater menace.

If we ask ourselves the question why do patients go to osteopaths, we find that the answer is a multiple one. In the first place, there is the enormous influence of advertisement; no publicity is given to failures, consequently the masses associate osteopathy with miraculous cures after doctors have failed.

Secondly, there is the age-long appeal of the mysterious—the witch-doctor cult. The attraction of the heterodox will always be a powerful factor in supporting the quack.

Thirdly, and this is the most important reason, osteopaths do often succeed where medical men and masseuses fail. Let us consider what types of illness respond to osteopathy—and remember that this term now embraces all forms of manipulation. They may be divided into two categories—diseases directly benefited by treatment and those receiving indirect benefit. In the first group we find predominantly the joint affections. My attention was first drawn to the inefficacy of medical treatment nine years ago when I was confronted by a nurse whose living was jeopardised by a chronic synovitis of one knee. She refused what I then regarded as the obvious treatment, namely, tonsillectomy and a calliper, and went to an osteopath. He manipulated the joint and in a week she was well; the effusion and pain had subsided. Clearly, he had destroyed adhesions which by their nature had irritated the joint structures and had given rise to all the appearances of inflammation. Since then I have manipulated many joints with varying degrees of success, but sufficient to indicate indubitably that our conception of joint pathology has often been at fault. When the osteopath states that he replaces a vertebra he is clearly wrong, but the result is good; in most cases the cures are due to the rupture of post-inflammatory adhesions. There are other cases, however, where there is something more than this—in fact, I suspect that the "bone out of place" really can exist. Think of the sudden disability following a strain of the back and of the equally sudden recovery after manipulation; one is forced to assume that a slight shift of articular surfaces has been brought about. The treatment of central sciatica is a case in point. There is a certain type of headache which responds most dramatically to osteopathic treatment as a direct result of it. I refer to the radiating pains over the occiput which follow the course of the great occipital nerves. This arises quite often after an attack of stiff neck and may persist for years, unless adequately treated. Manipulation of the neck cures the condition by rupture of myositic adhesions. If this patient has been wrongly diagnosed as suffering from migraine (and this is common), you will see how it is that the fame of osteopathy spreads.

Of maladies responding indirectly to treatment there are legion—they all depend upon the power of suggestion. In nearly all patients there is an element of fear which militates against their recovery—be it pneumonia, appendicitis or gastric ulcer—and if that fear can be replaced by complete assurance of recovery the patient will benefit. I have thought that often we are so immersed in the scientific application of our art that we forget this powerful effect of mind over body, and lose by it in consequence. Our natural dislike for anything savouring of showmanship places us in an inferior position to the osteopath from the point of view of effecting cures. We are, perhaps, a little too self-conscious. Quite apart from the indirect *treatment* of disease we should not forget the value of *prevention* by a sufficiently well organised hocus-pocus. There can surely be no doubt about it that a conviction that one is immune will go a long way to the avoidance of illness.

What is the remedy for the present state of affairs? Various alternatives suggest themselves:—

1. Alter the terms of the masseuses' charter and allow the members to exercise their judgment in matters of actual technique once the patient has been handed over for physical treatment. Personally, I favour this solution, because it will take a long time for the indications for and value of physical treatment to be taught to our profession. The subject is still too much a side-line of the curriculum.

2. Let the masseuses break away from the doctors entirely and treat quite independently of them. The objections to this are that they would inevitably lose the protection of the charter and their legal responsibility would be seriously increased.

3. Grant a charter to osteopaths and insist on the same limitations as those imposed on the masseuses. This may be the best solution, for the osteopaths could no longer complain of martyrdom. At the same time, under such restrictions they would dwindle to a mere handful.

4. Teach manipulative technique to the medical student so that he may be in the position to give all the treatment that an osteopath commands, with the additional security of knowing with what disease he is dealing.

Oxygen Therapy

Based on an Address read before the Dutch Society of General Pathology Utrecht, 8th June, 1934, by E. P. Poulton, Esq., D.M.

OXYGEN was discovered by Scheele before 1773, and the result was published in his treatise on Air and Fire in 1777. Priestley prepared it in 1774 and his account appeared in 1775 in Vol. 2 of his " Observations on different kinds of air." Lavoisier first understood the nature of the exchange of gases in the lungs, and some of the face masks used in his experiments are still in existence. The title " Father of Oxygen Therapy " should be given to Thomas Beddoes (1760—1808) and his publication " Considerations on the medical use and on the production of factitious airs " might be called the introduction to Inhalation Therapy. Beddoes studied medicine in Edinburgh and met Lavoisier in Paris and was a graduate at Oxford University and lectured there on Chemistry for 5 years ; but as he meddled in French politics in 1792 he had to resign. He established the Pneumatic Laboratory at Bristol with the idea of discovering some part of the effect of oxygen and other gases upon the animal economy. James Watt, inventor of the steam engine, devised his apparatus and Sir Humphry Davy was his assistant ; but after discovering the anæsthetic properties of nitrous oxide or " laughing gas" he left Beddoes, and on the latter's recommendation went, in 1801, to the Royal Institution in London where the rest of his work was done. Beddoes wrote extensively on oxygen ; but to our present ideas he regarded it too much as a " cure all." His other claim to fame is his work in preventive medicine and he was the first to tackle the subject of child welfare, a work which is now copied in every civilized land.

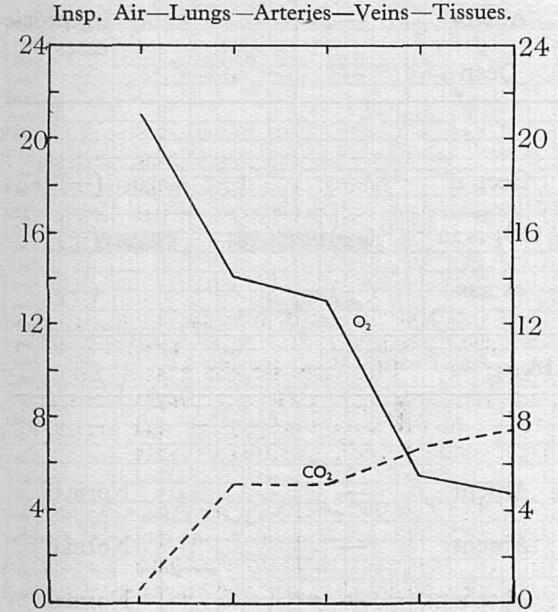

Fig. 1. Gas Pressures in various regions of the body. Ordinates—percentage of an atmosphere.

In Fig. 1 is shown the pressure gradient of oxygen and carbon dioxide from the inspired air to the tissue spaces, through the lungs, arterial and capillary blood. The fact that the oxygen pressure in the venous blood is higher than that in the tissue spaces must be due to the fact that the tissues do not take up as much of the available oxygen as they might. There is thus a reserve of oxygen in the blood and in anoxæmia the venous blood may become completely impoverished of oxygen. The actual pressure of oxygen in the tissues varies between 3.3 and 5.5% of an atmosphere but when there is inflammation the tissue oxygen pressure falls to zero.

As in other parts of medicine there is disagreement on nomenclature ; but it would seem reasonable to restrict the term anoxæmia to deficient oxygen in the blood and to use the term anoxia for oxygen want in general, but with special reference to the tissues. There are three types of anoxæmia (Table 1).

In arterial anoxæmia the arterial oxygen pressure is low and the tissue pressure also low. The patient may be livid ; white asphyxia of infants is an example. On the other hand cyanosis may be absent. There may be dyspnoea at rest and it will be certainly present during exercise. In chronic cases, the hæmoglobin is increased, so that the actual volume of oxygen carried by the arterial blood may be normal. Arterial anoxæmia occurs at high altitudes in pulmonary deficiency such as pneumonia or the oedema secondary to heart failure and in congenital heart disease.

In anæmic anoxæmia the hæmoglobin of the blood is reduced, the oxygen pressure is normal and the tissue pressure low. Cyanosis is absent, except in met- and sulphemoglobinæmia where the colour of the blood is altered. There is breathlessness on exercise if not at rest. Carbon monoxide poisoning is another example of this type of anoxæmia. Carbon dioxide has been advocated in carbon monoxide poisoning ; but the evidence is not very clear on the subject. Certainly oxygen is the most important factor in the treatment.

In stagnant anoxæmia where the circulation is slow through the periphery, the arterial oxygen

pressure is normal and the tissue pressure low. Cyanosis is marked and is especially deep when there is an accumulation of carbon dioxide in the blood. Heart failure constitutes a most striking example of this type; but it also occurs after severe hæmorrhage and surgical shock. There may at some time be an increase in the hæmoglobin and there is dyspnoea both at rest and during exercise.

In histotoxic anoxia the tissues suffer from oxygen want because owing to poisoning by cyanide, alcohol and other narcotics, they are unable to utilise the oxygen presented to them in the tissue fluids. The oxygen in the arterial blood and in the tissues is normal and the hæmoglobin normal and there is no dyspnoea at rest.

Arterial anoxæmia provides the most striking instance—in pneumonia—of the value of oxygen treatment, because giving oxygen will remedy the defect directly by facilitating its passage through the lungs into the arterial blood. But there would be no use for it in the chronic case, such as congenital heart disease.

The interesting observation has been frequently made that oxygen increases the carbon dioxide in the blood. In a case of Barach's for example,

TABLE I.

ANOXÆMIA

Types.	O_2 Pressure		Cyanosis	Dyspnoea		Hb.
ARTERIAL	Art.	Tissue		Rest	Exertion	
High Altitudes	Low	Low	Livid	+	+	+
Pulmonary Deficiency (2nd to Heart Failure)	Low	Low	or (Absent)	±	+	(In chronic cases)
Congenital Heart Disease	Low	Low	Deep	±	+	++
ANÆMIC						
Anæmia	Normal	Low	Absent	—	+	—
Carbon Monoxide	Normal	Low	Absent	—	+	+ (in chronic cases)
Met- and Sulph-hæmoglobinæmia	Normal	Low	Deep	—	+	—
STAGNANT						
Heart Failure	Normal	Low	Deep if	+	+	(+)
Severe Hæmorrhage	Normal	Low	CO_2 is in	(+)	.....	(+)
Surgical Shock	Normal	Low	excess	(+)	.....	(+)

ANOXIA

HISTOXIC						
Cyanide Poisoning	Normal	Normal	Absent	—	.....	Normal
Alcohol	Normal	Normal	Absent	—	.....	Normal
Other Narcotics	Normal	Normal	Absent	—	.....	Normal

the carbon dioxide rose from 55 to 133 c.c. per 100 c.c. of blood, up to 240% of the normal value. In some of Argyll Campbell's experiments where animals were kept under several atmospheres' pressure very high values for carbon dioxide were obtained. What is the explanation? I think we must agree that the suggestion of Dr. J. S. Haldane is right that the circulation is slowed, and this is the only way of explaining such a marked rise of CO_2. Like most other drugs oxygen in excess is a poison and may produce convulsions as well as pneumonia, and a reflex mechanism exists to cut down the circulation so as to save the brain from too big a supply. But if this is the case it is of the greatest importance not only in oxygen treatment but in the administration of carbon dioxide, which is so commonly given with oxygen. Carbon dioxide should be avoided if there is any danger of the heart giving out.

When a pneumonia patient is treated with oxygen he not uncommonly becomes excited, and this has led to difficulties in the use of the oxygen tent. When the senses have been dulled for some hours by anoxæmia the administration of oxygen may well make the patient pass to the opposite extreme. I well remember such a case of pneumonia in the old oxygen chamber that was erected after the war in the present Queen Ward; the patient became extremely excited and Dr. Campbell and Dr. Conybeare and myself spent the night in the chamber holding him down in bed. Clearly, if extreme excitement is observed the oxygen must be lowered to some extent, and it would probably be better not to raise the percentage in the first instance too quickly.

In the anæmic type, oxygen is of extreme value in acute conditions such as carbon monoxide and met- and sulphemoglobinæmia; but it would not be of much use in anæmia as an increase pressure of oxygen tends itself to produce anæmia, removing the stimulus to red cell formation. On the face of it there would seem to be no clear indication for its use in stagnant anoxæmia; but it may be of use, because by increasing the pressure in the arterial blood above normal it may help the nutrition of a damaged heart, and it has been found to be of great value in coronary thrombosis; while in heart failure complicated by secondary pulmonary changes, there is a clear indication for its use, because the anoxæmia is partly arterial. But it has been found of value in straightforward heart failure of elderly subjects where coronary sclerosis and myocardial degeneration are the cause. It is rarely of value in the heart failure of acute rheumatic disease in young subjects. This might be explained by the slowing of the circulatory rate if oxygen produces this effect. Where the main trouble is cardiac insufficiency, an extra diminution of the heart's action would be most undesirable; but when the coronary arteries are sclerosed it might be more important for the myocardium to have a good supply of

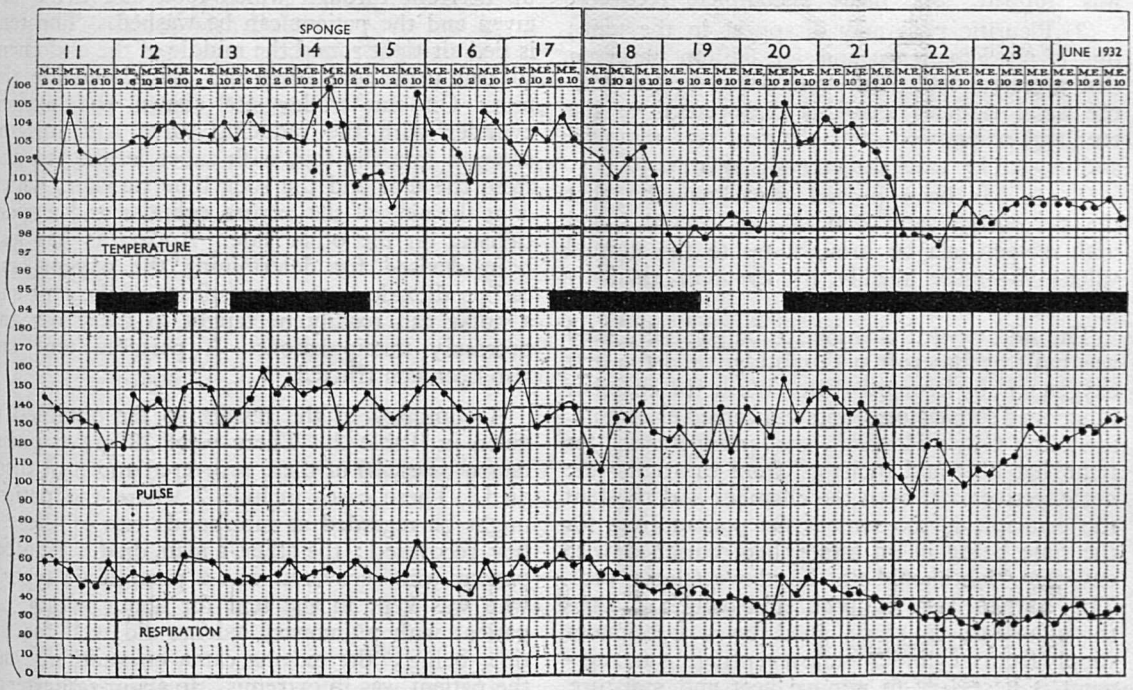

Fig. 2. Fall of temperature in a case of pneumonia. Black rectangles—periods in oxygen tent.

oxygen than for the body to have a slower circulation, which would explain the improvement in myocardial cases. Again in histotoxic anoxia there would seem to be no clear indication; but actually it has been found to be of value because by raising the oxygen pressure in the arterial blood up to two or three times the normal, it enables the poisoned cells to make better use of it.

For practical purposes there are two ways in which oxygen can be given—by nasal catheter and by the oxygen tent. The nasal catheter is much the simpler; but it is not so effective or so comfortable. It is claimed that lives can be saved by the tent that would be sacrificed by the catheter, and many of the patients that I have treated in the tent had been treated by the catheter previously.

The proof of the superior effectiveness of the tent is shown in several ways:—

(1) A fall of body temperature is commonly observed in pneumonia during the treatment; this is a rare occurrence with the nasal catheter. An example of such a fall of temperature is shown in Fig. 2. The patient was a girl of 2 years admitted to Guy's on June 8th, 1932, very ill with pneumonia; the prognosis was almost hopeless, she was put in the tent intermittently for 228 hours; at first there was no effect on the temperature; but later each time she was put under oxygen therapy the temperature went down to normal, rising again when the treatment was stopped. She made a complete recovery.

(2) Pleuritic pain may disappear in the tent; this is my experience and Dr. Hilton observed that a patient had pain while being treated with the nasal catheter and this disappeared in the tent and reappeared after the tent was removed and oxygen by nasal catheter was again used.

(3) It has been proved experimentally that the percentage saturation of the arterial blood with oxygen can be brought up to the normal value—95—more readily by the tent than by the catheter.

The first oxygen chamber to be generally used was built by Barcroft at Cambridge, and the first oxygen tent by Leonard Hill. While the chamber functioned satisfactorily and was copied elsewhere, including Guy's Hospital, the arrangements for removing heat and moisture from the tent were not effective. In both the chamber and the tent the principle is the same; the patient lives for the time being in an atmosphere enriched with oxygen which should not be above 60 per cent. The oxygen that is used and which escapes through leaks is made good by a continuous supply from a cylinder while a ventilating arrangement is necessary to remove heat and moisture. In my experience removing the heat and moisture has been the most difficult problem. Barach got over the difficulty by providing an ice container in the ventilating circuit, large enough to hold 1 cwt. of ice, and this has to be refilled every 6 to 10 hours. A powerful motor fan is required to drive all the air of the tent once each minute round through the ice box and the soda lime container; the latter absorbs the carbon dioxide produced by the patient. In the latest form of tent, the Barach-Thurston Solarium tent, 6 to 8 litres of oxygen are used each minute to keep the percentage up to 50. The next advance was made by Plummer and Cecil, who introduced the injector so that the motor fan can be dispensed with and the ventilation of the circuit is obtained from the potential energy of the oxygen compressed in the cylinder; but I believe this has proved ineffective in removing the heat and the moisture if the ice box is in the circuit.

The method that has been worked out at Guy's Hospital is to let in two tins through the roof of the tent, which are filled with broken ice from above and from outside the tent. The cooling and drying thus takes place in the tent itself where the patient is; not only is there a great economy in ice, but there is no need to have such a big ventilating current as it is only necessary to absorb the carbon dioxide in the soda lime canister and for this purpose the injector is quite sufficient. In the picture (Fig. 3) is shown a patient at Guy's Hospital inside the tent with the two sleeves tied up in front through which food and drink are given and the patient can be washed. The tent is tied air-tight round the middle of the abdomen, so that urine and fæces are passed outside the tent. On the trolley are shown the oxygen cylinder with the reducing valve and injector screwed into the top, with tubes leading to and from the tent and the soda lime canister, which is at the side of the oxygen cylinder and a spare canister on the other side. Apparatus has also been devised for determining the oxygen and carbon dioxide in the atmosphere of the tent and a nurse can readily be taught to carry out the necessary manipulations. A portable tent has also been constructed.

A summary of the results so far obtained is given in Table 2. There were 28 grave pneumonia cases, 20 of these recovered and 8 of them died. These cases include 2 where the patient might be regarded as moribund: one of these, a boy, recovered; the other, a man, died. Another patient who recovered was a pneumonia type 3, who was kept in the tent for about a day. A patient with pulmonary œdema did well for the time being; the œdema came on suddenly and the patient was in extremis. In about a quarter of an hour after beginning treatment she had come

TABLE II.

CASES TREATED WITH OXYGEN

PULMONARY DISEASES.

Disease	Cases	Benefit		Recovered	Died
		+	—		
PNEUMONIA					
Adults	10			9	1
Children	18			11	7
Totals	28			20	8
Pulmonary Oedema	1	1			1
Bronchitis and Emphysema	15	14	1		0
Asthma	1		1		0
Phthisis	4	1			4

CIRCULATORY DISEASES.

Cardiac Failure with Pulmonary Complications	10	10		6	4
Rheumatic Mitral Disease	3		3		
Syphilitic Myocarditis	1		1		
Paroxysmal Dyspnoea	1	1			1
Angina	2	2			2
Heart Block	1	1			
Erythromelalgia	1	1			

CASES TREATED WITH CO_2 AND O_2

Pneumonia	2			2	0
Asthma	6	4	2		
Cardiac Disease	3		3	Probably did harm	

round and was comfortable again, although she died with further complications two days later. The patients with bronchitis and emphysema were mostly treated some years ago in the oxygen chamber and nearly all of them did well. The patients with continuous attacks of asthma did not seem to be benefited, although adding some carbon dioxide to the oxygen of the tent stopped the attacks in 4 out of 6 cases. It should be mentioned that one of the 4 patients after being taken out of the tent became extremely ill; he was given gr. $\frac{1}{4}$ of morphia and recovered and for some weeks subsequently the amount of adrenaline required during the 24 hours to stop his attacks was reduced from about 150 minims down to about 20 minims. There must be some doubt as to how far the oxygen and CO_2 treatment in the tent and how far the morphia were responsible for this beneficial result. Patients with phthisis may get some temporary benefit; but the tent should not as a rule be used for these cases.

The main results in cardiac failure have already been mentioned and those shown in Table 2 bear out Barach's observations on a larger series of patients. When there are pulmonary complications, patients do well; but not in uncomplicated rheumatic disease.

F. M. was a patient of 60 years, who had asthma since he was 15 and had been short of breath on exercise for many years. He came into Guy's on June 27th, 1931, suffering from cyanosis, dyspnoea and œdema; on July 7th he was put in the tent for $5\frac{1}{2}$ hours with 45 per cent oxygen. His breathing became easier and the improvement persisted and the loss of weight shown in Fig. 4 was definitely accelerated after the treatment while the œdema disappeared.

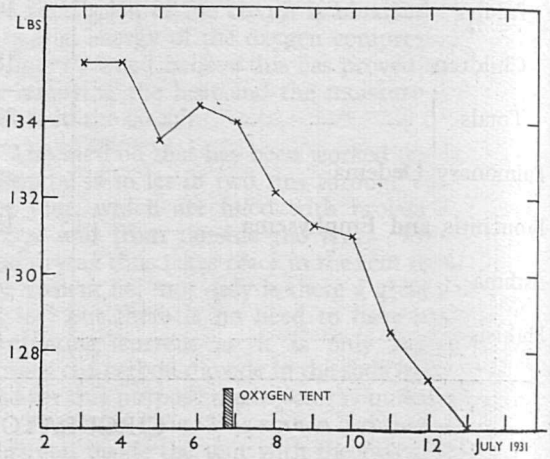

Fig. 4. Treatment of Cardiac Failure in oxygen tent (shaded area) with loss of body weight from disappearance of œdema fluid.

Some experimental results obtained by Dr. Barach are given in Fig. 5. The patient had cardiac failure and the alkaline reserve as suggested by the values for the CO_2 in the blood and serum was below normal. Oxygen treatment raised these figures nearly to the normal; the percentage saturation of the arterial blood with oxygen, which was low, became normal as well, while the volume of urine and the output of chloride was increased after 3 days treatment with oxygen—a very satisfactory result, though the onset of diuresis was rather delayed.

A patient with paroxysmal dyspnœa (cardiac asthma), was treated some years ago with oxygen through a mask and valves; this treatment was successful, whereas the nasal oxygen did not stop the attacks. Two patients with angina pectoris obtained relief, too. Barach has observed relief in coronary thrombosis, although I have not yet had a patient myself in which the treatment has been tried.* A patient with heart block was having frequent Adam Stokes' attacks when oxygen was administered through a mask from a

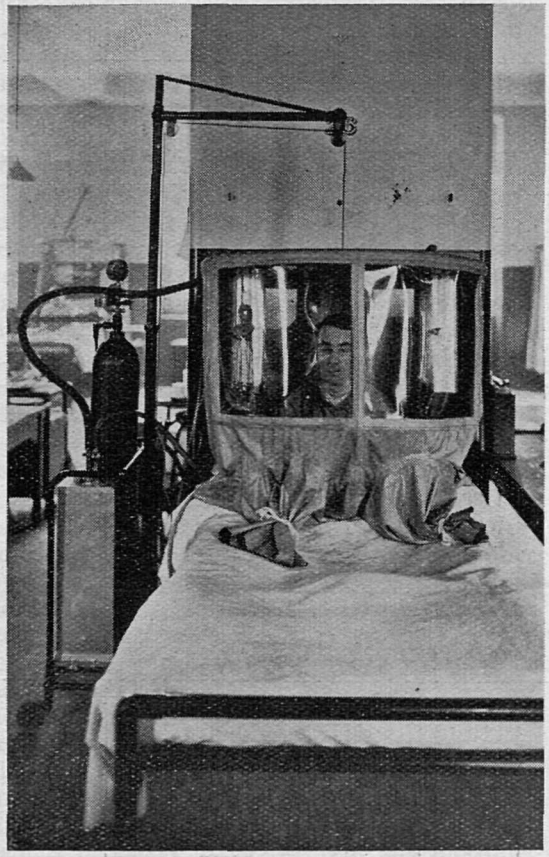

Fig. 3. The oxygen tent in Stephen Ward, Guy's Hospital.

* Since writing this, I have had one case; the tent produced a remarkably beneficial effect, but the patient did not survive.

closed circuit apparatus for 3¼ hours. Complete heart block was established, as shown in Fig. 6, with disappearance of the attacks.

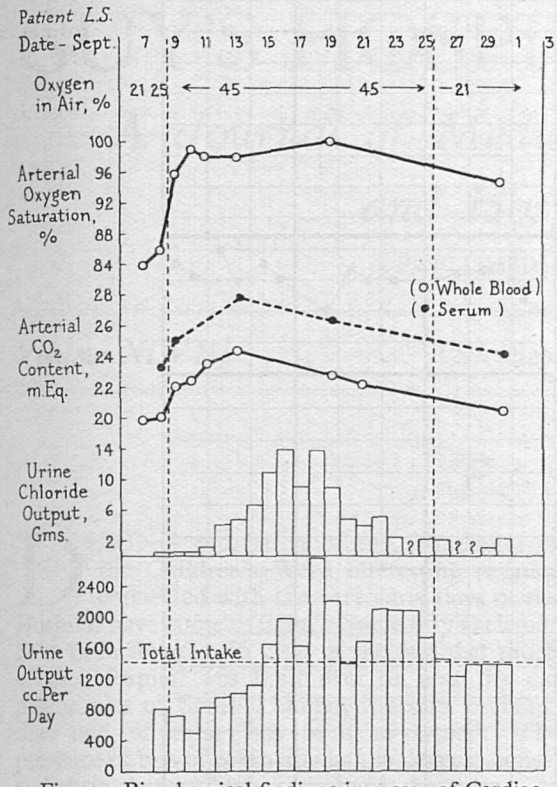
Patient L.S.
Date - Sept. 7 9 11 13 15 17 19 21 23 25 27 29 1 3
Oxygen in Air, %
21 25 ← 45 → 45 → 21 →
Arterial Oxygen Saturation, %
100 96 92 88 84
Arterial CO_2 Content, m.Eq.
28 26 24 22 20
(○ Whole Blood)
(● Serum)
Urine Chloride Output, Gms.
14 10 6 2
? ? ?
Urine Output cc. Per Day
2400 2000 1600 1200 800 400 0
Total Intake

Fig. 5. Bio-chemical findings in a case of Cardiac Failure treated with Oxygen (Barach).

The effect of carbon dioxide in asthmatic attacks has already been mentioned. It has been tried with oxygen in three cases of cardiac disease; but there was no benefit and the carbon dioxide probably did harm. This is what one might expect if oxygen slows the circulation and increases the carbon dioxide thereby; it would not be desirable to increase the carbon dioxide further by giving it with oxygen. I have treated two pneumonia cases with carbon dioxide and oxygen; both of them recovered. One of them was a striking case of a woman of 50 who had been operated on by Mr. Phillip Turner for adenoma of the thyroid, and the pneumonia began as a massive collapse. When she was seen 24 hours after the operation she was considered to be *in extremis* and the prognosis hopeless, as she was livid and drowsy, with a rapid and very irregular pulse due to auricular fibrillation. At 6.15 p.m. she was put in the tent containing 38% of oxygen and 3% of carbon dioxide; the pulse became regular about 10.30 p.m., and in the morning at 9.30 a.m. she was taken out feeling very much better and she made a slow but steady recovery. If carbon dioxide is given with oxygen in pneumonia (it has been proved to be useless when given with air) it should only be given in the early stages of the disease in order to increase the depth of breathing, cause a mild cough and so lessen the blocking of the bronchi by the viscus pneumococcal sputum, which on the theory of Coryllos and Birnbaum, is responsible for the onset of the disease. I have not time to deal with this theory more fully; but the evidence in favour of it is very strong. However, carbon dioxide should be avoided in the latest stages of pneumonia when there is a danger of the heart failing

The most important indication for oxygen treatment is pneumonia, because this disease attacks the young and healthy and not uncommonly cuts short a valuable life. In heart disease, there is always the feeling that it is a case of patching up an individual who has not many months to live. It is in pneumonia that the value of oxygen will be vindicated.

The superiority of the oxygen tent over the nasal catheter has already been dealt with. How can the oxygen tent be introduced into the medical practice of this country? The problem of the tent in hospital will be solved readily. Administration in selected cases will convince the medical man of its value and the nurse will learn how to use it. There are already nurses at Guy's, the Royal Free and at two of the London Fever Hospitals who have had continued experience with the tent described in this paper, and should be capable of carrying out the treatment under medical supervision. An oxygen tent should be regarded as an essential adjunct to treatment in most departments of the Hospital.

This leaves untouched the great field of general practice. In this country the majority of patients are ill in their own homes, and it is to them that the tent must be brought. It should be available for any doctor who has a grave case of pneumonia or bronchitis under his care. Is it to be left to commercial enterprise to supply the want? If so, the rich will get the treatment and the poor will go without. Can we instead visualise a national "Oxygen Service" conducted on a voluntary basis and available to all alike. Surely this must be our aim.

For the service to be successful both tents and technical assistants must be available. The function of the technician will be to bring the tent to the house and erect it—a matter of half an hour; he will instruct the doctor and nurse in its use remaining as long as his services are required and returning at intervals to make sure that things are going well.

In time the "Oxygen Service," which might include the use of all special respiratory apparatus, may well rank in importance with the other

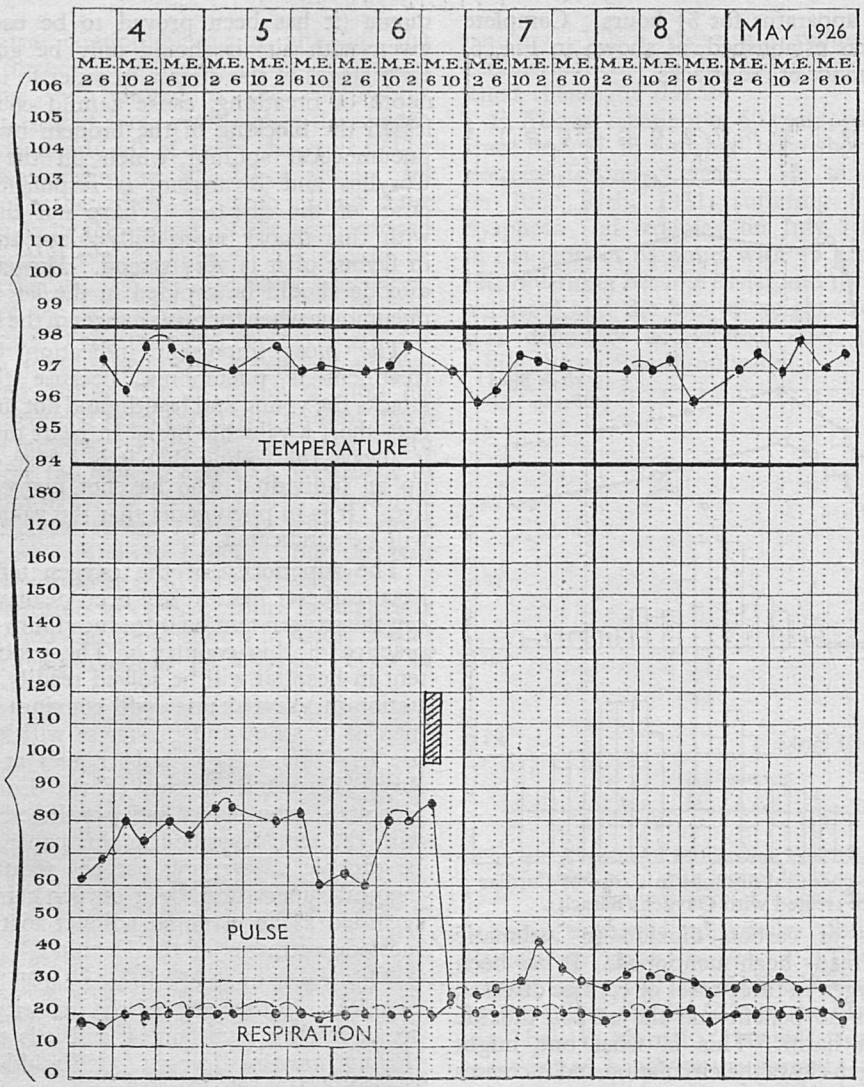

Fig. 6. Cessation of Adams-Stokes' attacks after treatment with Oxygen ; establishment of complete heart block.

voluntary medical services conducted by the Order of St. John of Jerusalem and the British Red Cross.

Already there has been a beginning in a small way. With the help of the Medical Research Council it is now possible to send out at the request of any medical man an oxygen tent in the charge of a fully qualified physical therapeutist. Only the actual expenses will be charged for ; but it is hoped that any patient who has benefited from the treatment will make a donation towards the cost of an Oxygen Therapeutic Service to be constituted on a voluntary basis. Such a donation will be essential if the Service is to be continued as at present ; it is not self-supporting.

Hospital Information, etc.

Change of Address

N. S. Heegard Warner, L.D.S., R.C.S., Kingsnorth, Station Road, Sidcup, Kent.

Henry Rosenberg, M.R.C.S., L.R.C.P., 43, South Farm Road, Worthing. *Worthing* 3020.

Birth

BORN.—On August 15th, 1934, to Katharine (née Pemberton), wife of Professor Y. H. Born, M.A., M.D., of 57, Gayton Road, Harrow—a son.

Death

TURNER.—On August 11th, 1934, Walter Pickett Turner, M.D., at 2, Nightingale Square, S.W.12.

EDS. { D. P. K. P. W. C.

GUY'S HOSPITAL GAZETTE

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PASSIM

DURING excavation of the foundation of the Children's Ward interesting remains connected with the very early days of the Hospital have come to light. Some fifty skeletons have been found. In view of the fact that much of the Hospital was built over or near the old plague pits of South London, it seems probable that one of these has been re-opened. The presence of bits of coffin amidst the deepest bones, and their absence higher, supports this view. At the height of the plague it often happened that the bodies were shovelled into the pits without proper burial service. Contrary evidence has, however, been provided by the rumour of a discovery amidst the bones of an 1800 coin. The true origin of the remains would thus appear a little uncertain, and the entertaining theory that the pit was the means by which the worst surgical errors of the eighteenth century were cloaked cannot be entirely refuted. Further elucidation of this problem is difficult, as now only those with special authority are allowed to inspect the site of operations.

It appears unlikely that the Anatomy Department will gain any fresh osteological material of great value, as many of the bones themselves, let alone the bony markings, undergo spontaneous dissolution on handling. That these remains were not disturbed during the erection of the Children's Block is due to the fact that that ward was built on the foundations of the old Anatomy Theatre, underneath which was the cellar in which were stored the bodies.

A large part has been played in the excavations by the pneumatic drill. This admirable instrument has been heard with particular effect in the O.P.O.'s room, and to some extent in Queen and Mary Wards. The arts of auscultation and percussion become, while it is in use, impossible. Until October, there are no lecturers on the other side of the Park to be rendered inaudible. Then even the most skilled sleepers-in-lectures will be faced with a new and very difficult problem. It is, of course, gratifying to see the steady rate at which the work on the new private block is progressing, but, nevertheless, it is alarming to be faced with two years of such noise, with the only prospect of change that to the automatic riveter. This at a time, too, when there appears to be a general move in the country against offensive noises : Hore-Belisha in London, and in Aberdeen weighty hours spent by the British Association in discussion of its evil consequences on modern life.

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FOR some time it has been the rule that after 11 p.m., when there is only one porter on duty in the Surgery, the Take-in H.P. and Clinical should wheel up to the wards any cases that either of them may decide to admit from the Surgery. After leaving the case to the care of the Ward Staff, the H.P. or Clinical is supposed to return the trolley to the Surgery. It is needless to say that this latter duty is seldom carried out by even the most assiduous Resident—owing partly to the great power of the desire for sleep. The suggestion has been made to us that it would be a wiser course if the porter on duty were to take the cases up to the wards while the H.P. and Clinical remain as representatives of the male sex in the

Surgery. The porter could wheel the trolley back to the Surgery on his return journey.

In this number we are publishing a list of the Rugby Football fixtures for the new season. There are one or two alterations, but the general high standard remains the same. We understand that amongst the new men coming to the Hospital there are several who have already made for themselves a reputation on the rugger field. At the moment most of the playing fields in this part of the country are too hard for play, so that it may be necessary to postpone the beginning of the season.

The draw for the Inter-Hospital Cup matches has already been made. We will be playing Bart's in the first round, and if we beat them we will be up against the winners of the match between St. Mary's and Middlesex. It is unfortunate that the draw has turned out in this way, for it seems probable that the exciting matches will be fought early and the Final will be robbed of some of its interest.

We fear that the use of the word "resignation" in the remarks we made in the "Passim" of August 4th expressing our regret at the retirement of Mr. Eason from his position as Ophthalmic Surgeon to the Hospital, may have given the impression that Mr. Eason is retiring from practice as an ophthalmic surgeon. Lest this be the case, we hasten to make it clear that Mr. Eason has retired from his position as ophthalmic surgeon only by reason of having reached the usual age limit, and, fortunately, is looking forward to continuing his work both in a private capacity and as a member of the Consultant Staff of the Hospital for many years to come.

The new session of the Medical School opens officially on October 2nd at 2.45 p.m., when Mr. C. H. Fagge, M.S., consulting surgeon to the Hospital, will give the opening address and Lord Nuffield will present the prizes for last year. Afterwards Lord Nuffield will lay the foundation stone of the new Private Block, which has been conceived almost entirely as a result of his generosity.

Obituary

ANDREW GORDON TOPPING

Born 26th January, 1916; *died 23rd August*, 1934.

Gordon was the younger son of Dr. Andrew Topping a graduate of Aberdeen who, when he came near London as the Medical Superintendent of the Southern Hospital at Dartford, sent both his sons to study medicine at Guy's. On the day before Gordon was due to go in for his First M.B. Examination he developed pneumonia from which he made a rapid recovery and after which he went for convalescence to stay with relatives at Aberdeen. Here he was joined for the summer vacation by his brother. On Thursday, August 23rd, the two boys set out for a walk along the beach. From this there arises a cliff some two hundred feet high that they proceeded to climb. The face was very dry and, as a result of the drought, unduly crumbly. Halfway up they realised that the climb was a stiffer one than they had had reason to think. They decided that it would be better to go on than to return. The elder reached the top and called to his brother to stay while he went for help. Gordon was then some eight feet below. At that moment a piece of rock to which he was clinging broke away. He fell, and was killed instantly.

Guy's as a community hardly knows her first-year students. They work apart and there has not been time for them to become blended in the life of the hospital; but on those whom he had got to know Gordon Topping had made his impression as a quiet and sincere little fellow who seemed to have in him much of good that would have developed and come out in a medical career. He played cricket and was a medium fast bowler with a delivery that appeared to be much simpler than it was. In appearance he was characteristic of a certain type of Scotsman with a bradycephalic head and spectacles from over or under which there would occasionally be caught a glance that was full of humour. Our sympathies go out to his parents and to his brother who was with him when the accident occurred.

The Use of the Electro-Cardiogram

A Lecture delivered at Guy's Hospital on Friday, January 26th, 1934, by Dr. J. M. H. Campbell

GENTLEMEN,—Each new instrument for investigation and each new chemical method raises further problems for the physician, because it is impossible to apply all of them, and difficult to apply many of them, to every patient you see. So one has to learn the conditions in which they are necessary and the conditions in which they are not likely to be of very much use.

The worst type of medicine is represented by the idea that you hand over a patient to a large number of investigators—one for the blood chemistry, another for the X-ray, another for the electro-cardiogram, and yet another for any other examinations, though all these are necessary in their place. To some extent you get an impression of this method in hospital, because there one has to think not only about the treatment of the individual patient, but also about the need for making complete records from the point of view of investigation of the subject as a whole, and about having the fullest possible evidence from the standpoint of teaching.

As a contrast to this, one wants to think of the best type of medicine, represented by the physician who, without more than one or two methods of technical examination, can make a complete decision on his own. That may be impossible in some patients, and nowadays many questions of diagnosis call for confirmation in some way; but one should be able to limit this to as small a number of special investigations as possible, and a decision must be made as to what is necessary in each particular case. This is important from the point of view of the patient's time and money, and of the doctor's intellectual capacity to come to a correct diagnosis.

It is along these lines that I want to talk to you to-day about the electro-cardiogram, and to lay down the sort of conditions in which you can obtain help, and others in which there is less liberty. The second question I want to answer is, when you have decided that a patient needs a cardiogram,* what is a normal cardiogram? What points must you look for in order to know whether there is anything out of the ordinary in that patient?

I might usefully give you three examples to illustrate what I mean. Not long ago I was asked to advise what exercise a young man should take. I was sent a cardiogram, the only information accompanying it being that the patient had been advised to stop rowing, as it had strained his heart. The cardiogram was normal, but that gave me no idea what the answer to the question should be. Whenever a new method of investigation is found, some people tend to turn to it for a penny-in-the-slot diagnosis. That is a wrong attitude; you may have a normal cardiogram with serious heart disease, or a very abnormal one with a relatively good prognosis.

The second patient I have also seen in the last few months. The diagnosis of angina was made four years ago, and though he has been an in-patient twice, no method of examination has revealed anything very abnormal. But that did not upset my diagnosis of angina. Two months ago he said he was worse, because he had been alarmed and worried when his wife had been bitten by a dog—a result one might expect, because any shock might make such a patient worse. His cardiogram was taken again, and again it was almost normal, showing nothing except partial inversion of the lead III, as it had done before (Fig. 1*a*). I saw him once more at Out-Patients, when he said he had recovered from the shock and was feeling better. Then, shortly after, he died suddenly. Here the cardiogram was far from being the final court of appeal as to the condition of the heart.

As another illustration, I had a letter from a doctor yesterday saying that a patient I had seen some months ago had died. I looked to see my letter about him at that time, and found I had said that, though the cardiogram was not very abnormal, showing only left ventricular preponderance and slurring of R and S with quite reasonable T waves (Fig. 1*b*), it did not change my view that the prognosis was a very bad one. He had left ventricular failure, as shown by orthopnœa and dyspnœa at night, though the cardiogram failed to show anything to prove that it was serious.

Passing to the conditions in which the cardiogram is of use, they fall into two big subdivisions; one of these is the diagnosis of irregular rhythms, and the other of the condition of the heart muscle itself. When the cardiogram was first introduced it was used almost entirely in connection with arrhythmias, and the instrument taught us the mechanism of auricular fibrillation and helped us to understand what extra-systoles were, and that

* There are other cardiograms as well as electro-cardiograms, *e.g.*, polygrams; but there is urgent need for a shorter word than electro-cardiogram for something which is becoming so common, and until one is invented I propose to use the shorter, if inexact, word.

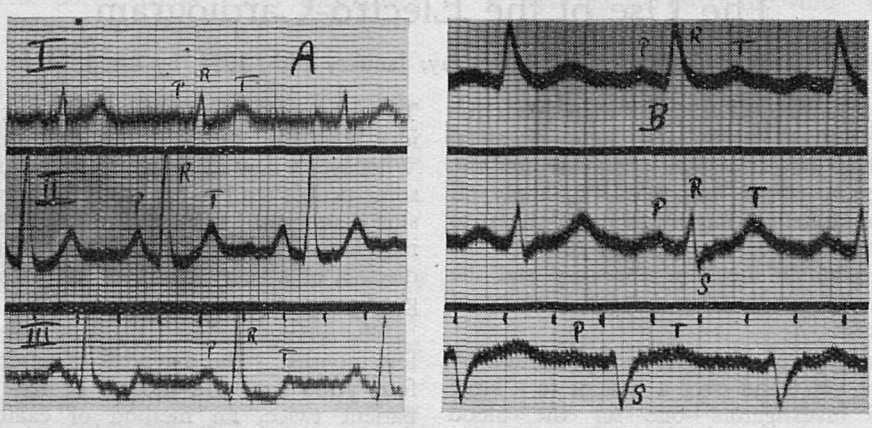


Fig. 1

Electro-cardiograms showing only slight abnormalities though the patients died soon afterwards with heart disease. (*a*) Angina pectoris with biphasic T in lead III. (*b*) Left ventricular failure with slight widening of R and S.

paroxysmal tachycardia was a series of extra-systoles. Having done that, it seemed that its use in most heart irregularities was almost finished, because there are clinical methods by which you should be able to decide what is the irregularity in most patients without any graphic methods. But there are still difficult cases, and where there is doubt about the diagnosis of an irregular rhythm it is essential to settle it with the cardiogram, because this is now one of the things which has been placed into the category of absolute scientific knowledge, without any room for discussion about it, *i.e.*, as to whether a patient has extra-systoles or auricular fibrillation, or heart-block or sinus trachycardia. As the cardiogram can answer this with certainty, it would seem that we have almost reached the penny-in-the-slot method of diagnosis, when a student with the instrument would be more likely to be right than an experienced man would without it. But this is not true of any other cardiac conditions; and it is one of the dangers of the cardiogram, as of all new methods of investigation, that a second-rate man with the instrument may get a better reputation than a first-rate man who does not happen to use it because his work is more general. It is only on these questions of irregular rhythms and occasionally in coronary thrombosis that the cardiogram can give you that absolute answer.

If any patient has an irregular heart, and if after seeing him as frequently as you wish, under conditions of rest and exercise and giving him certain tests, and if then you still fail to settle what the irregularity is, this is so important both from the point of view of treatment and prognosis that it should be settled absolutely by the cardiogram.

The second and, in my opinion, the more important field of usefulness, which was, in fact, discovered only after most of the work on irregularities had been done, is in the changes in the QRS and especially in the T waves, which indicate disease of the ventricular muscle. There are certain points in the cardiogram which prove, even without your seeing the patient, that he has some degree of myocardial disease, but these changes do not settle what the extent of it is. I shall go into more detail in connection with each of the groups where it may be useful, but two things seem to me of outstanding importance in that direction. The first and most important are all cases of angina pectoris. Angina is caused by disease of the coronary arteries, and it seems that the changes in the heart muscle following on disease of the coronary arteries are particularly liable to show changes in the cardiogram, though I have just quoted one exception. Therefore in nearly all cases of angina you are likely to get help from the cardiogram; it is often a useful point in the prognosis.

Another use in connection with angina, apart from the immediate diagnosis and prognosis, is that we have rarely had any subjective method of checking the progress of these patients. So far, what we think as to the patient getting on well or not has depended mainly on his account, on the ease with which his attacks are induced, and their frequency. Now, with the cardiogram, we may be able to say definitely a year later that there has been no change in the record, and, by inference, that there has been no progressive narrowing of the coronary arteries. And in another case one may find changes have progressed a long way.

Patients will often ask why they should develop

disease of the coronary arteries. So much stress has been laid on drinking and smoking as causes of arterial disease, that most patients who have led respectable and moderate lives in this direction think they should have avoided arterial disease. But it is not so, and in my opinion it is much more a constitutional matter, and the surprise is not that the arteries become narrow at sixty, but that they should not have done so earlier. You have had an illustration of the narrowing of the pipes brought forcibly to your notice in the College in the last few days. Two years ago new hot-water pipes were put in, and to-day they do not function owing to fur; imagine what their condition would have been in 60 years! The surprising thing in the human artery is not that there should be atheromatous changes, but that the vessels survive so well over such a long period, that it is exceptional to get blockage before 40 years, and not very common before 50 or 60 years. Most of the arterial changes lying behind angina represent constitutional changes, helped on in many cases by disease.

Then there is a third group, in addition to angina pectoris and the irregularities which are difficult to diagnose—cases where, after trying other methods of examination, you still find that it is difficult to say whether there is much the matter with the heart, or perhaps difficult to say whether there is any heart disease at all. Often the cardiogram may be useful here. If you think a heart is normal, the cardiogram is a great help in making you certain of this, and if you think there is some disease you may find more changes in the cardiogram than you find by any other physical examination, and so may settle what to do in that way.

There are three conditions I would emphasise where the cardiogram is much less likely to help you, and where, if it is difficult to do, or an inconvenience, or costly to the patient, it is probably not worth it. In ordinary cases of compensated valvular disease it is unlikely that your decision about what the patient ought to do, or about his prognosis, will depend on the cardiogram; his symptoms and his response to exercise-tolerance tests are probably much more important.

Another group consists of patients with congestive heart failure. Most of these have got some abnormality in the cardiogram, and it is always of interest to know what this is, but there can be no doubt about the diagnosis and the prognosis depends on the response of their congestive failure to treatment, especially to digitalis, and whether there is fibrillation or normal rhythm. The outlook depends on the response to treatment and on the ætiological causes rather than on the cardiogram.

Another series are cases of simple tachycardia. They can be very puzzling, and one welcomes any possible help in their investigation. But it is rarely that a case of simple tachycardia shows anything abnormal in the cardiogram provided it is simple tachycardia and not auricular flutter.

I will refer to three cases which I have seen in the last week, illustrative of instances in which the cardiogram was useful.

The first is that of a young man in the twenties, who had been off work two years, complaining of constant precordial pain, definitely worse when he did a day's work. He had few other symptoms. He had seen many doctors, and most of them had found no signs of heart disease. His father, however, was certain that he had strained his heart by working too hard on the farm. There the cardiogram was useful in confirming that the heart was normal, and it was of help in treatment in persuading him that his heart was not diseased. The cause was mainly psychological, firstly because it appeared that he was disappointed with the financial results of his farming, and, secondly, because he had put off his engagement until such time as he had recovered from his pain. The pain persisted, and that raised the question whether the engagement was really desired. Time alone will prove if I am right, but the strong probability is that the cause was psychological rather than cardiac.

The next is an intermediate case, where there was some heart disease, but not severe. He was a man of sixty who had always had good health until two years before, since when he had had indigestion, with flatulence. Then one day, while he was in the Tube, he felt he would collapse, and the feeling was severe enough for him to have to sit on the seat for twenty minutes before proceeding, after which he sat down on several other seats, and ultimately reached home in a taxi. Since that experience his pain after meals had become worse. If he had been younger one might have said at once that it was a curious attack of dyspepsia, but here there was some cardiac enlargement, and his blood pressure was somewhat high. I was anxious as to whether it might be coronary thrombosis, in which collapse rather than pain was the striking symptom. His first cardiogram showed slight changes, *i.e.*, it was wrong in certain points, but there was nothing suggestive of coronary thrombosis. The second cardiogram, two weeks later, showed no further change, so there had been no active myocardial changes or coronary thrombosis. So our findings helped us to take an optimistic view of his future, and we were justified in treating

his pain as associated with ordinary dyspepsia, rather than as the type of anginal pain which some people get after meals.

The third is an illustration of a patient with more serious heart disease. I saw her two months ago, and we diagnosed coronary thrombosis. She had severe pain on her way back from seeing the doctor, which seems an unlikely coincidence, making one hesitate about the correctness of the diagnosis. She had been to have an injection of anti-catarrhal vaccine, but her doctor knew that she had high blood pressure, and she had felt warning anginal pain for two or three weeks, though she had not mentioned this to the doctor. I should have adhered to my diagnosis even if the cardiogram had been normal, but it was helpful in removing any element of doubt, and, later, as showing the stage of recovery. It showed deep inversion of the T wave in lead I, and almost certainly that was not present before her coronary thrombosis. She has not made a very complete recovery in respect of the heart muscle, but she is now allowed to do enough to enable us to test what she can do without any recurrence of angina.

To summarise the conditions under which you should have a cardiogram done. Firstly, those in which you cannot decide what the irregularity is. Secondly, all cases of anginal pain, and pain in the chest about which there is any reasonable element of doubt. It is more important in angina even than in coronary thrombosis, for if you are doubtful about this diagnosis, the patient should be given the benefit of the doubt and be treated by rest in bed at that stage; the value of the cardiogram will be greater at a later stage, when the patient is recovering. Thirdly, where there is something puzzling about the heart condition, or where the physical signs and symptoms do not agree.

The second question I want to answer is, What is a normal cardiogram? What are the changes which you need to look for in deciding this?

A clinical cardiogram always shows the three leads above each other, the first being taken from the right arm to the left arm, the second from the right arm to the left leg, and the third from the left arm to the left leg. Five waves are described for each beat of the heart. The first wave, P, represents the activity of the auricle, and the others the ventricular contraction—Q, R, and S being of short duration and representing its initiation and T being longer and representing the process of recovery.

The P wave is generally small and less than two divisions in the horizontal scale; it is often so small as to be hardly noticeable in one lead, but will be easily identified in at least one lead if there is normal sinus rhythm. This is the first thing to establish, and the second is that there is no delay in conduction down the auriculo-ventricular bundle, as shown by the interval between the start of P and the start of the ventricular complex not being prolonged. It is known as the PR interval (because of the small size and uncertain presence of Q); it averages 0.16 secs., and if it is more than 0.20 secs. there is partial heart block. The P wave is often large in mitral stenosis (*see* Fig. II), and sometimes in other conditions, but it may be small or normal in extreme mitral stenosis. When the P wave has been identified, it is easy to see if the auricle is regular, if there is sinus arhythmia, or if extra systoles are present.

Large P waves in each lead, especially I and II, and right ventricular preponderance (see later) are shown in Fig. 2; when these two are combined

Fig. 2

Right ventricular preponderance and large P waves from a case of mitral stenosis.

it is almost certain that it comes from a patient with mitral stenosis, as was the case with this figure.

Fig. 3 illustrates the importance of the PR interval, as without the cardiogram his diagnosis would have remained very doubtful. A young man of 18 had had tonsillitis three weeks before; he had been off work for a week, but had not been in bed or seen a doctor, and had returned to work and carried on for two weeks, not feeling really well. On May 13th he woke up and felt he was going to be sick; he was able to walk half-way to the lavatory, when he fell unconscious and cut his head severely. An hour after his doctor found his pulse rate 34, and put him to bed until he came to hospital a week later. It was not clear how long his pulse remained slow, probably for less than a day, and certainly when he came to hospital his heart rate was 76 and there been in Victoria Ward for the last three or four weeks illustrates the value of that. She was sent up for a decision as to whether pregnancy should be terminated, her doctor having said she had fibrillation a few weeks before. When she came into hospital she had a regular heart, and therefore we were left in doubt as to whether the original diagnosis of fibrillation was right, and, if so, whether it was merely a paroxysm, which was less important from the point of view of treatment. There was little to say about her heart clinically, and it would have been difficult to decide without a cardiogram. Her PR interval was 0.3 secs., and the only question to decide was whether it was due to acute or to chronic carditis. She had had some rheumatism when the doctor diagnosed fibrillation, and we decided it was a rheumatic carditis, which justified the pregnancy being terminated. A subsequent

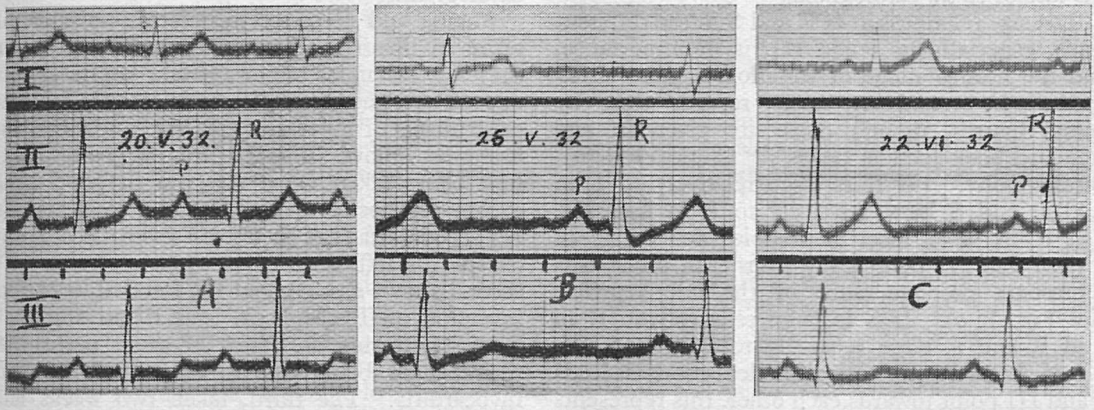


Fig. 3

Partial heart block after tonsillitis and recovery. The PR interval in A, 0.29 secs.; in B, a week later, 0.22 secs.; and in C, a month later, 0.18 secs. (*see text*).

were no physical signs except a slightly altered first sound and a little albuminuria. The PR interval was 0.29 secs., proving that he had partial heart block, and that the slow pulse had really been due to heart block and not to extra systoles, which were met coming through to the wrist.

He made an uneventful recovery, the PR interval being 0.22 secs. six days later, and 0.18 secs., *i.e.*, normal, within a fortnight of his admission. Of course, it is possible that he had undiagnosed diphtheria, but this could not be proved when he was seen three weeks after the original tonsillitis.

If the heart-block is so great that there are dropped beats, you can diagnose it clinically; otherwise there is no way of diagnosing it except by means of the cardiogram. A patient who has cardiogram gave a shorter PR interval, proving that it had been due to active carditis rather than to a chronic condition. If her pregnancy had gone on there would probably have been serious failure, perhaps with a fatal result.

The initial ventricular complex generally consists of three excursions: the first, Q, small and downward; the second, R, large and upright; and the third, S, large and downward. If conduction is normal the electric changes spread quickly through the muscle and, after the three waves, the shadow quickly comes back to the iso-electric position. Together they should not occupy more than 0.1 secs., and wider QRS waves represent a failure of conduction and so are evidence of myocardial disease. When the waves are wide, they may also be notched, but this may occur normally in lead III, when it may be difficult

to be sure which are Q, R and S. This is called a "bizarre" ventricular complex, and in lead III above it is not necessarily pathological, and is often associated with a slightly inverted T in the same lead.

This defect in conduction is shown in Fig. 4 in varying degree during the course of a year; there are also changes in the T waves, *e.g.*, T.II and III are inverted at some times but not at others. He did not have angina or any clinical evidence of coronary thrombosis, but there must have been active myocardial changes during this period. He was a man of 51 with a history of cough and dyspnœa for a year before; his heart was greatly enlarged, without any valvular disease or high blood pressure. He worked on and off for a year, gradually becoming more short of breath, with severe orthopnœa and paroxysmal nocturnal dyspnœa; and died six months after the last of these cardiograms.

The size relationship of R and S in the different leads, especially in I and III, is of importance, and the normal range of variation is more easily learned by examining many records than by actual figures, though these are given in any standard book such as Lewis's "Clinical Electrocardiography." If R is large relatively to S in lead I, and S large relatively to R in lead III, *i.e.*, if the two most noticeable deflections in leads I and III point away from each other, this represents preponderance of the left ventricle (*see* Fig. 1, *b*). If S is large relatively to R in lead I, and R large relatively to S in lead III, *i.e.*, if the two most noticeable deflections in leads I and III point towards each other, this represents preponderance of the right ventricle (*see* Fig. 2). Unless the heart is enlarged, these changes depend on the lie of the electrical axis of the heart, and do not indicate preponderance of either ventricle.

The next thing to consider is the T wave, and in some ways this is the most important of all. It is quite different from the other ventricular waves, being broad (*i.e.*, of longer duration) and not very high. Although such important conclusions can be drawn from the T wave the theoretical explanations are inadequate and the conclusions reached are empirical. An inverted T wave in leads I and II always means myocardial disease; in lead III it may be slightly inverted as a normal variant, but deep inversion is pathological.

The only point to be sure of is that the patient has not been having big doses of digitalis, because this produces some inversion of the T wave, and therefore you cannot judge a patient as abnormal on that alone if he has been taking large doses of digitalis; it is not likely that taking 10 minims of it three times a day will give effects on the cardiogram.

Angina and coronary thrombosis are generally taken to illustrate changes in the T waves, and they are the most important and common cause of such changes, which, however, occur with many other forms of myocardial disease, and three such examples follow. Fig. 5 is from a girl of 18, the first being taken when she was in good health except for aortic incompetence, two years after her second attack of rheumatic fever; it is normal except for left ventricular preponderance. The second shows a prolonged PR interval, 0.24 secs., inversion of T deeply in lead I and slightly in lead III, during an attack of acute pericarditis, the changes being due to associated rheumatic myocarditis. The third, taken two weeks later, already showed a good degree of recovery, but in another attack of acute pericarditis five months later she died.

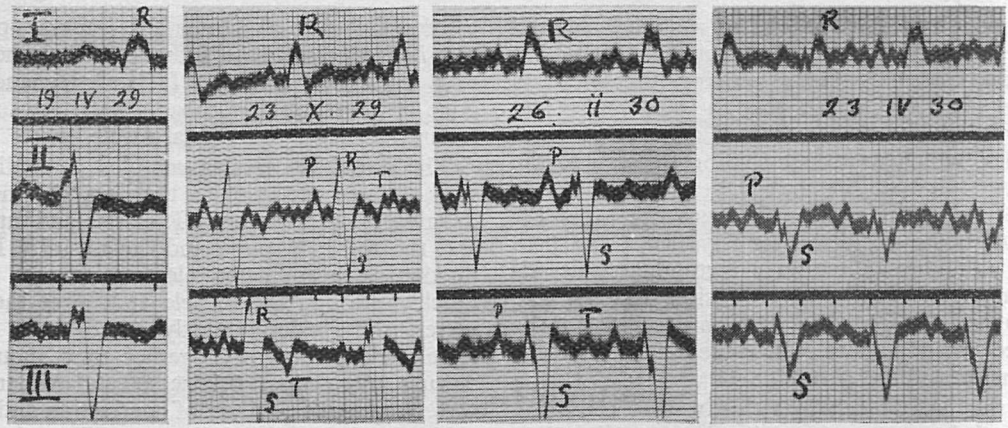


Fig. 4
Partial bundle branch block, varying in type, from an elderly man with a very large heart. T was deeply inverted in B in lead III.

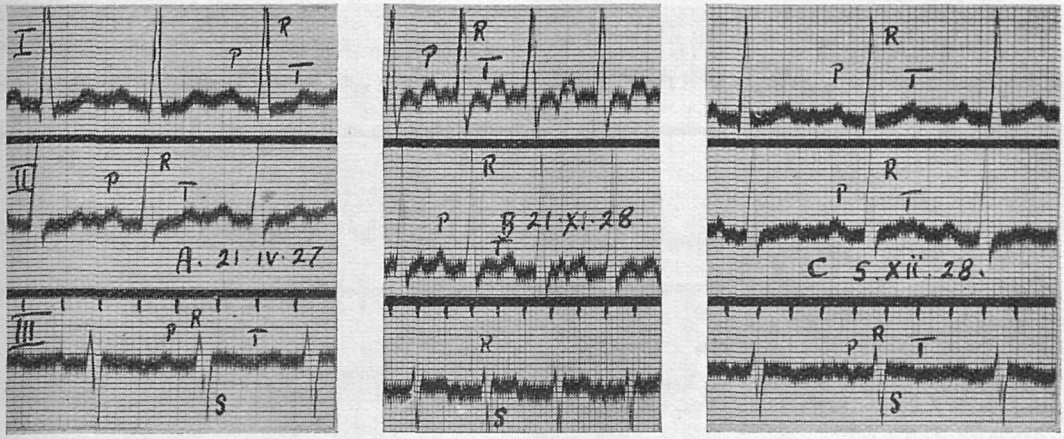


Fig. 5
Inversion of T in leads I and II during rheumatic pericarditis and myocarditis. (*a*) Before, (*b*) during, and (*c*) after her attack.

Inversion of the T waves in all leads with a prolonged PR interval is shown in Fig. 6, an unusual case of a boy of seven who had been dangerously ill with congestive heart failure and uræmia due to acute nephritis following tonsillitis. Apart from the renal changes (which included a blood urea of 126 mgms. per 100 c.c., hæmaturia, and 8 parts per 1,000 albumin), he had gallop rhythm with a heart rate of 160, a much enlarged liver, and a systolic blood pressure of 65, on admission rising to 85 next day. He slowly improved with rest and digitalis and appropriate treatment for his nephritis, and the first cardiogram was taken after two weeks, when his blood urea had been normal, the albumin less than 1 part per 1,000, and the blood pressure 90; the liver was still greatly enlarged, but gallop rhythm had disappeared. He was having Nativelle's digitalin 1/600 gr. t.i.d., which may have intensified some of the changes in the cardiogram. Fig. 6 (*b*) was taken a month later, when he had almost entirely recovered.

The next illustrates the toxic effects of hyperthyroidism as shown in the cardiogram. He was a man of 64 with exophthalmic goitre of two years' duration; he had lost three stone in weight and the heart rate was still 120 and the B.M.R. +45 per cent., in spite of a long period of rest in bed. In view of his age and some arterio-sclerosis it was feared that the changes in the cardiogram (Fig. 7, *a*) might be due to organic disease, but, in view of his unsatisfactory progress, thyroidectomy was performed by Mr. E. G. Slesinger. He gave some anxiety after the operation, and two weeks later, although he was much better and the heart rate down to 80, the cardiogram still showed

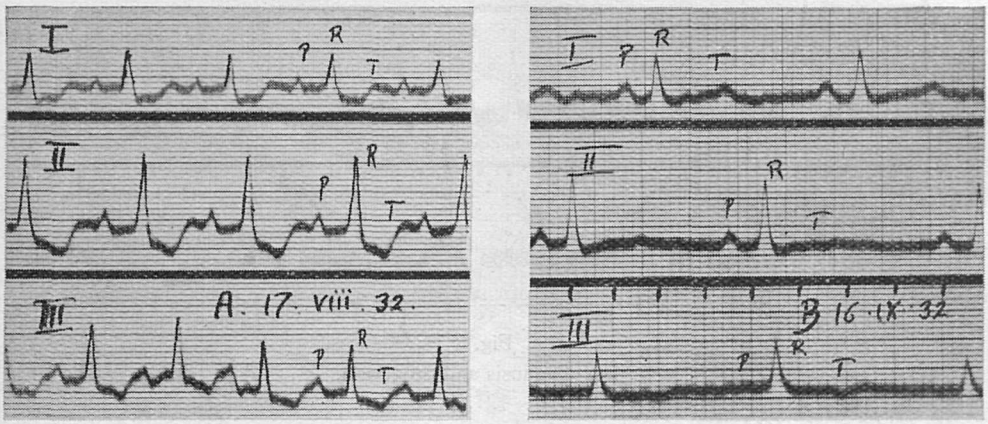


Fig. 6
Inversion of T in all leads and prolonged PR interval in a boy with acute nephritis and myocarditis. (*a*) During attack. (*b*) On recovery, one month later.

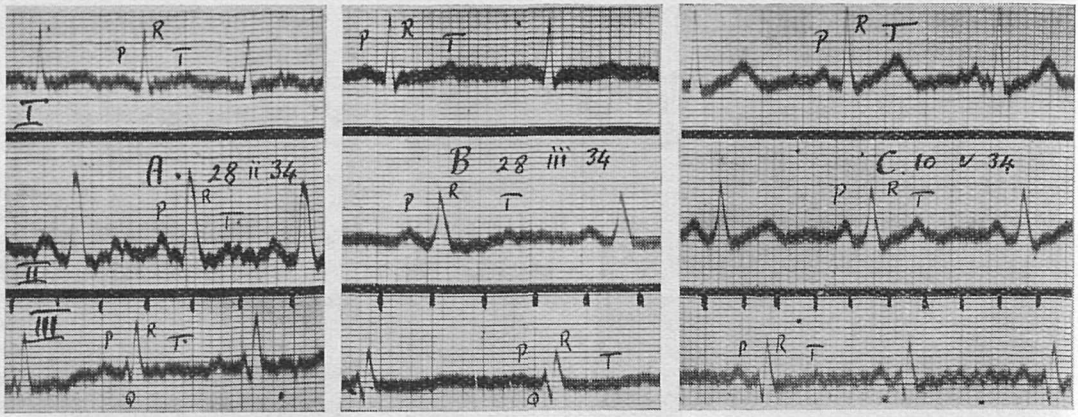


Fig. 7

Flat T waves due to toxic hyperthyroidism. (*a*) On admission, (*b*) two weeks after thyroidectomy, and (*c*) two months after.

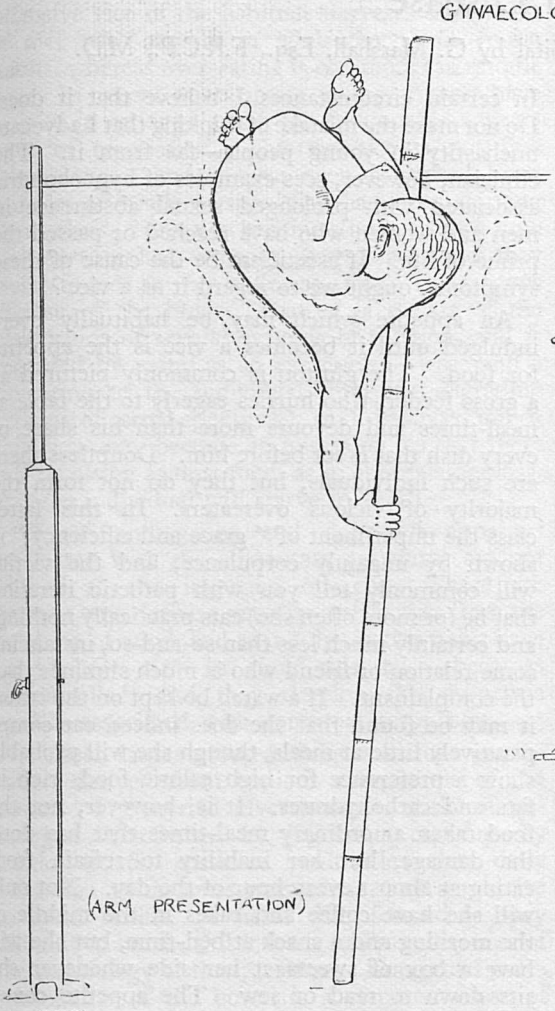
flat T waves (Fig. 7, *b*). But two months later he was almost completely well, and the T waves were now upright and very good for his age (Fig. 7, *c*), showing that the previous changes had all been due to his hyperthyroidism.

The last, Fig. 8, is included for diagnosis; it is a cardiogram on which a prognosis can be given without any knowledge of the patient's history or clinical condition. The illustrations which have been chosen are rather a miscellaneous collection to show various conditions in which the cardiogram may be useful apart from the more ordinary conditions detailed in the first part.

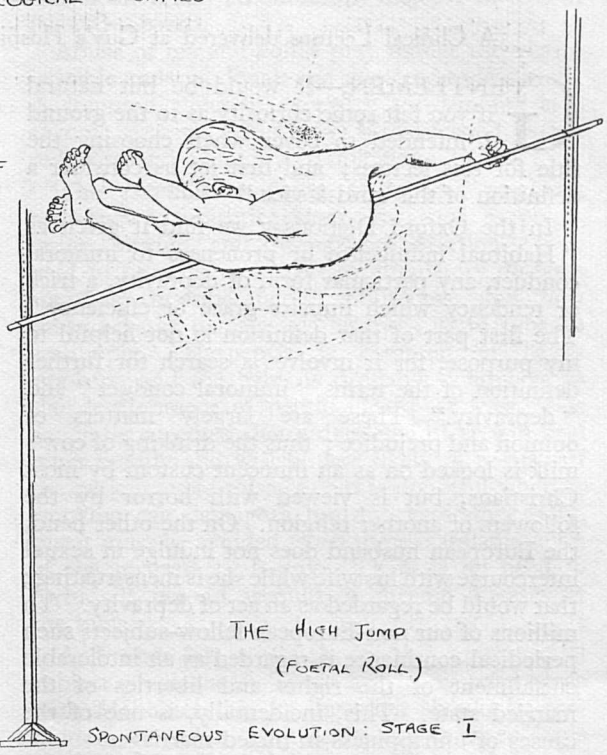
Fig. 8

For diagnosis and prognosis.

GYNAECOLOGICAL GAMES

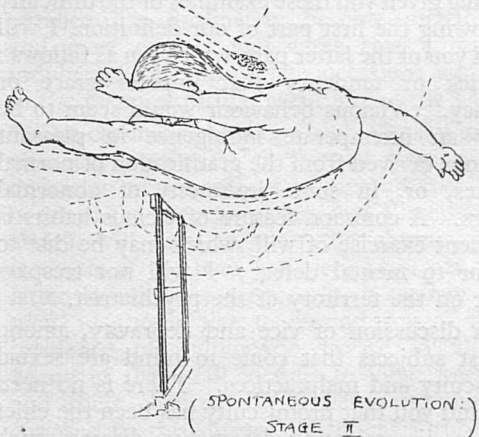


(ARM PRESENTATION)

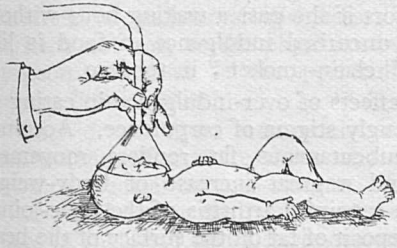


THE HIGH JUMP
(FOETAL ROLL)

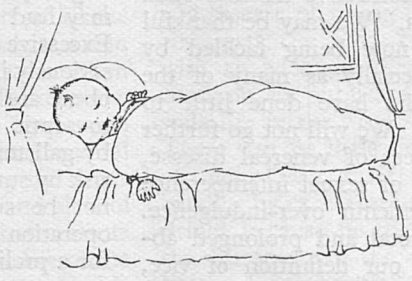
SPONTANEOUS EVOLUTION: STAGE I



(SPONTANEOUS EVOLUTION: STAGE II)



NOT HIS DAY.



LITTLE MAN YOU'VE HAD A BUSY DAY

Vice and Disease

A Clinical Lecture delivered at Guy's Hospital by G. Marshall, Esq., F.R.C.P., M.D.

GENTLEMEN,—It would be but natural if you felt some curiosity as to the ground I intended to cover when choosing the title for this lecture; and first let us consider a definition of the word "vice."

In the Oxford Dictionary we find it given as "Habitual indulgence or proneness to immoral conduct, any particular form of depravity, a trick or tendency which impairs grace or efficiency." The first part of that definition is not helpful to my purpose, for it involves a search for further definition of the terms "immoral conduct" and "depravity." These are largely matters of opinion and prejudice; thus the drinking of cow's milk is looked on as an innocent custom by most Christians, but is viewed with horror by the followers of another religion. On the other hand, the European husband does not indulge in sexual intercourse with his wife while she is menstruating; that would be regarded as an act of depravity. To millions of our non-European fellow-subjects such periodical continence is regarded as an intolerable curtailment of the rights and liberties of the married state. This, incidentally, is one of the causes of unhappiness in mixed marriages.

Having given you these examples of the difficulty of following the first part of our definition, I will remind you of the latter part, which ran as follows: "a trick or tendency that impairs grace or efficiency." Vicious behaviour would seem to be mainly an intemperate indulgence in pleasant sensations derived from the gratification of normal appetites, or, in some instances, of abnormal cravings. A common feature of vicious habits is a deficient exercise of will, which may be due to sloth or to mental defect; I will not trespass further on the territory of the psychiatrist.

In a discussion of vice and depravity, among the first subjects that come to mind are sexual promiscuity and malpractices. There is no need to remind you that promiscuity has been the chief factor in disseminating destructive diseases such as syphilis and gonorrhœa. We may be thankful that these plagues are now being tackled by organised treatment, especially as many of the victims are innocents who have done little to deserve their misfortune. We will not go further into the very large subject of venereal disease, but while on the subject of sexual intemperance we can all agree to condemn over-indulgence. How are we to regard total and prolonged abstinence? Does this fit our definition of vice, inasmuch that it impairs grace and efficiency? In certain circumstances I believe that it does. Do not make the mistake of thinking that I advocate unchastity in young people—far from it. The clinician, however, sees examples of hypochondria associated with prolonged sexual abstinence in men and women who have reached or passed the prime of life. If asceticism be the cause of these symptoms, ought we to regard it as a vice?

An appetite which may be habitually over-indulged until it becomes a vice is the appetite for food. The glutton is commonly pictured as a gross feeder, who hurries eagerly to the table at meal-times and devours more than his share of every dish that is set before him. Doubtless there are such individuals, but they do not form the majority of vicious overeaters. In this latter class the impairment of "grace and efficiency" is shown by ungainly corpulence, and the victim will commonly tell you with pathetic iteration that he (or more often she) eats practically nothing, and certainly much less than so-and-so, instancing some relation or friend who is much slimmer than the complainant. If a watch be kept on the latter, it may be found that she does indeed eat comparatively little at meals, though she will probably show a preference for high calorie foods rich in fats and carbohydrates. It is, however, not the food taken at ordinary meal-times that has done the damage, but her inability to refrain from eating at almost every hour of the day. Not only will she have coffee and cakes in the middle of the morning and a snack at bed-time, but she will have a box of sweets at her side whenever she sits down to read or sew. The appetite comes with eating, and the greedy individual experiences real discomfort if she pass a waking hour without food. Her uncurbed indulgence in food is like that of the "chain-smoker" in tobacco.

The evil effects of over-indulgence in eating go beyond the ugly stigma of corpulence. Accumulation of subcutaneous fat renders movement ungainly, and a great increase of body-weight may lead to a painful arthritis of the knee-joints. Excessive deposit of fat on the surface of the heart seriously impairs the efficiency of this organ. The obese are especially susceptible to bronchitis and to septic infections, and they are often afflicted by gallstones. They are justly regarded as a bad risk by surgeons and anæsthetists, and they should not be subjected to laparotomy or any major operation if it be possible to postpone the latter for a preliminary course of weight-reduction.

Having considered the effects of over-eating, I

should like to refer to the less common and offensive vice of the habitual starver. This habit is met with mostly in adolescents and young adults, whereas over-eating is commoner in middle age. In recent years many young women have starved in order to attain the fashionable appearance of emaciation. This practice is not free from danger, and I have been consulted by a number of young victims who had been starving themselves in order to become slim. After a time the wasting had become progressive, and they were found to be suffering from tuberculous disease of the lungs. Fasting is a part of the observance of several systems of religion, and is regarded by many as an exercise of virtue and a liberation of the individual from the degrading tyranny of carnal appetites. In ill-balanced minds this view may become an obsession, so that there is a revulsion against food, as in anorexia nervosa, and the individual will starve to death.

Vicious indulgence and depraved appetites associated with the alimentary apparatus are not limited to the ingestion of food. There are persons who derive a peculiar satisfaction from the belching of wind, and to indulge in this habit have to swallow air. In time this trick becomes uncontrolled, and they develop the dyspepsia usually associated with continual aerophagy.

A much larger group indulge a vicious gratification derived from copious evacuations of the bowel. The myriad advertisements of the purge-mongers, reinforced by ingenious cartoons by comic artists, persuade multitudes that daily purgation is in some mysterious way conducive to good health. A habit thus formed is very difficult to break, and it leads to gross disorder of the physiology of the intestines. Continued over-stimulation of the bowel is a common cause of flatulent dyspepsia, spastic colon, and many varieties of abdominal discomfort which bring patients not only to the physician but also to the surgeon and lead to the performing of many useless laparotomies.

The drugs more commonly recognised as instruments of vice are those whose chief action is on the central nervous system. Their use is so widespread among the healthy members of all the races of mankind that a moderate indulgence can scarcely be rated as a vice, though local custom and prejudice decree that an innocent habit in one country shall be a crime punishable by law in another. Such drugs may be either cerebral stimulants or narcotics. In this country the drugs in common use are tea, coffee, tobacco and alcohol —the first two may fairly be classed as stimulants and the others as narcotics. Within the life of the present generation there has been a considerable decrease in the consumption per head of coffee and alcohol, and an enormous increase in that of tea and tobacco.

Abuse of tea and coffee may render the victim irritable and emotional, and may lead to insomnia. A common effect of excessive tea-drinking is a chronic gastritis, which may be associated with a red nose and a muddy complexion.

The excessive smoking of tobacco produces well-known subjective symptoms such as palpitation, vertigo, and dyspnœa on exertion. It is held to be a factor in certain circulatory diseases such as thrombo-angeitis obliterans, and may cause serious damage to the eyes, as in tobacco ambliopia. Dyspepsia is common in heavy smokers, and the habit is probably conducive to the development of peptic ulcer; at least, it is generally accepted that a duodenal ulcer will heal more readily and will be less likely to re-open if the patient avoid tobacco. It is doubtful whether smoking can damage a healthy respiratory tract, but it must be avoided when there is inflammation of the pharynx or larynx. There is no need to forbid its use on account of chronic diseases of the lungs.

And now let us touch on the controversial subject of alcohol. There are many who agree with Mahomet that its ingestion should be forbidden altogether, because its use so often leads to harmful over-indulgence. Habitual intemperance has fortunately become unfashionable, and most of you will agree that a reasonable indulgence on appropriate occasions adds much to the pleasure of life, and causes little harm.

The chronic alcoholic, with his loss of grace and efficiency, makes a perfect illustration of our definition of the effects of vice. Gross changes occur in the nervous system and alimentary tract, and I will only mention the chronic gastritis, cirrhosis of the liver and peripheral neuritis, the latter found more frequently in women than in men. I should like to remind you of the high incidence of pulmonary disease in alcoholics. Many of them fall victims to lobar pneumonia, and their chances of recovery are poor when attacked by this disease. Pulmonary tuberculosis is a disease of young adults and of those in poor circumstances who cannot provide themselves with an adequate diet; but the disease is also common in publicans and in Europeans whose walk lies in the tropics and other remote stations. There can be little doubt that these two classes of men lower their resistance to the tubercle bacillus by excessive use of alcohol. The publican drinks because he thereby encourages trade, and the European in the outposts drinks because he has inadequate social distractions, and because he

has been told that alcohol is not harmful if taken after sundown.

Some alcoholic preparations are doubtless more harmful than others, and astonishing effects were reported from fluids consumed during the Prohibition era in the United States. These effects seem to have been due to irritant poisons mixed with the ethyl alcohol, and are not seen in this country except in those who imbibe methylated spirits. Amongst reputable alcoholic beverages I believe the most harmful are those in which the percentage of alcohol is highest. Rum, gin and whisky are approximately proof spirit, *i.e.*, when ignited will fire gunpowder. This old legal definition of proof spirit corresponds with 49 per cent. ethyl alcohol. Brandy is about 40 per cent., and fortified wines, *i.e.*, wines to which spirit has been added, such as port and sherry, come next at 25 per cent. Light wines contain about 10 per cent., and malt liquors under 5 per cent. Cocktails are said to be peculiarly pernicious, but I suspect that a cocktail consisting of a mixture of spirits and fruit juice is more innocuous than a mixture of spirit with wine, which is the constitution of that hoary old hypocrite sherry.

While the consumption of alcohol for what we might term social purposes has greatly decreased, so has its medical use. The lay public still believes that red wine will cure anæmia, probably on account of its colour, but the medical profession no longer prescribes alcohol as routine treatment for all serious illness. The giving of brandy to young children is unlikely to aid them in the course of an acute toxæmic infection, and even in adults it probably does more harm than good in similar circumstances. If your patient be a heavy drinker, then it is usually wise to order him a regular ration of alcohol when he is stricken with an acute infection, for otherwise he may suffer from insomnia, restlessness and excitement, which all militate against his recovery. The chief use of alcohol in medical practice is for its psychological effect; otherwise its value is small.

There are other drugs whose habitual use may constitute a vice, the best known being the derivatives of opium, especially morphia, heroin and omnopon. Addiction to these drugs is, fortunately, uncommon in this country, and is met with for the most part in those who have easy access to supplies, viz., members of the nursing and medical professions and their families. The drug is usually taken by hypodermic injection, and the addict may be known by his or her contracted pupils, pale face, unhealthy gums, and his tendency to unpunctuality and prevarication.

Review

Diseases of the Skin. By S. ERNEST DORE and JOHN L. FRANKLIN. Published by Messrs. Cassell & Co., Ltd. *Price* 10*s.* 6*d.*

TO the ordinary student or recently qualified doctor, dermatology is apt to be a nightmare. "I don't know anything about skins," is all too frequently heard, while a close trade unionism among the initiated, who cloak their knowledge with fantastic verbiage, does little to lighten the darkness.

Now there is no excuse. This book of 400 pages is admirable. The arrangement is logical. After the usual anatomical survey, 20 pages are given to the examination of the patient, the general points to be noted about any eruption, and the terminology. We are then introduced to those ailments whose names are at any rate familiar to us—itching, urticaria and the erythemas. Only gradually do the authors lead us on to more complex problems such as lichen planus, pityriasis and the "ides."

No small debt is owed for a long-awaited definition of eczema, while the treatment of this disease will help to lighten our mental gymnastics at Out-Patients.

Therapeutics generally in this book are adequate only; exact prescriptions are too rare a feature. This is a pity, for so often we know the text-book remedy, but are at a loss to weave it into a prescription.

No attempt has been made to produce highly coloured illustrations, which always tend to be misleading. The 46 black-and-white plates are as helpful as any pictures can be in dermatology.

For the more scholarly chapters on new growths and congenital abnormalities conclude an inexpensive book which is almost of pocket size.

C. A. C.

Guy's Hospital Gazette

The Editor will, at all times, be glad to consider articles or sketches, provided that they are accompanied by the writer's name and address, not necessarily for publication. The payment that the GAZETTE can offer is merely nominal. Authors who desire reprints of their papers should make their own arrangements with the printers when they return their proofs. All contributions to be addressed to *The Editor*, who does not accept responsibility for the views expressed by contributors

"Nine Till Six"

By AIMEE and PHILIP STUART.

TWO admirable performances of this play were given in the Physiological Theatre on September 6th and 7th by students of the Massage Department.

The acting was of the highest order throughout, and the settings were delightfully arranged. The Misses Barbara Franklin (Mrs. Pembroke), Margaret Hawkey (Gracie), Betty Taylor (Freda), Joyce Baker (Violet), Doreen Honour (Bridget Penarth), Ruth May (Clare Pembroke) and Ann Chaplin (Miss Roberts) deserve special mention, but in a performance of such high merit it would be invidious to single out only the principals, without at the same time praising the skill and individuality displayed by those who took the lesser roles. The Massage Staff are to be heartily congratulated on their excellent production, and we also understand that a special vote of thanks is due to Mr. Taylor and the Works Department, and to Mr. Baker, of the Physiological Department, for their invaluable assistance and co-operation.

As everyone knows, the play is concerned with the daily life of a dressmaking and millinery establishment, but the authors have also contrived to portray in a most skilful manner the intensely human element which is such an important factor in the successful running of any organisation. Our readers need hardly be reminded that the success of a play depends entirely on the interpretation, and the general opinion of the audiences on both nights was that the interpretation of "Nine Till Six" could not have been more sympathetically rendered.

X. Y. Z.

DRAMATIS PERSONÆ

Mrs. Pembroke (*Proprietress*) Barbara Franklin
Miss Roberts (*Millinery Saleswoman*) Ann Chaplin
Freda (*Stock-keeper in the Dressmaking*) Betty Taylor
Gracie (*an Apprentice*) Margaret Hawkey
Mrs. Abbot (*Gracie's Mother*) Ellen Cam
Clare Pembroke (*Mrs. Pembroke's Daughter*) Ruth May
Daisy Nora O'Neill
Gwladys Mary McDouall
Lady Avonlaye (*Bridget's Mother*) Gwen Gower-Rees
Bridget Penarth (*an Apprentice*) Doreen Honour
Violet Joyce Baker
Carry (*Head Packer*) Frances Warren
Beatrice (*Mannequin*) Olive Rootham
Judy (*Mannequin*) Peggy Newbegin
Helen (*Mannequin*) Dorothy Mansfield
M'selle (*Head of a Workroom*) Helen de la Nougerede

Sport

Rugby

LIST OF FIXTURES, 1934-1935

1934.	*Opponents.*	*Ground*
Sat., Sept. 8	Trial Game	
,, ,, 15	Catford Bridge	Home
,, ,, 22	Gloucester	Away
,, ,, 29	Coventry	Away
,, Oct. 6	United Services, Portsmouth	Home
,, ,, 13	Old Blues	Home
,, ,, 20	Old Whitgiftians	Home
,, ,, 27	Harlequins	Home
,, Nov.-3	Aberavon	Home
Wed., ,, 7	Cambridge University	Home
Sat., ,, 10	Birkenhead Park	Home
Wed., ,, 14	University of London	Away
Sat., ,, 17	Rosslyn Park	Away
,, ,, 24	Old Leysians	Home
Wed., ,, 28	United Services, Portsmouth	Away
Sat., Dec. 1	Richmond	Home
,, ,, 8	The Army	Home
Sat., Dec. 15	Coventry	Home
,, ,, 22	London Scottish	Away
,, ,, 29	Old Alleynians	Home
1935.		
Sat., Jan. 5	Old Merchant Taylors	Away
,, ,, 12	Birkenhead Park	Away
,, ,, 19	Bedford (*International* v. *Wales*)	Away
,, ,, 26	Gloucester	Home
Wed., ,, 30	Cambridge University	Away
Sat., Feb. 2	Aldershot Services	Home
,, ,, 9	Aberavon (*International* v. *Ireland*)	Away
,, ,, 16	Old Millhillians	Away
,, ,, 23	Blackheath	Home
,, Mar., 2	Old Cranleighans	Home
,, ,, 9	Northampton	Home
,, ,, 16	Bedford	Home
,, ,, 23	—	—
,, ,, 30	Northampton	Away

Hospital Information, etc.

Pass List

UNIVERSITY OF LONDON.

M.D. EXAMINATION.
July, 1934.

BRANCH I.
Medicine.

S. N. Evans J. C. Heather

SECOND EXAMINATION FOR MEDICAL DEGREES.

PART I.
July, 1934.

E. B. Berry
V. H. Beynon
D. A. G. Brown
J. Burton
H. B. O. Cardew
H. Foster
W. F. Frazer
R. Gilbert-Harris
W. S. Hacon
E. R. Hodgson Todd
T. R. Jones
I. J. Mathias
A. H. Mayne
O. Meerapfel
H. E. Moody
L. Nancekievill
J. R. E. Richardson
M. O. Richardson
L. F. W. Salmon
C. J. Stewart
W. G. Tillmann
A. J. Walker
W. R. D. Wiggins

FIRST EXAMINATION FOR MEDICAL DEGREES.
July, 1934.

A. G. Beaton
L. J. Blay
H. P. Brown
F. R. Buckler
P. S. Clarke
J. C. Coe
D. M. Cushing
M. E. Davies
A. M. Dawes
A. E. J. Etheridge
J. M. French
W. E. Greenwood
N. S. Harris
C. F. Hawkins
H. A. Lee
C. H. Phillips
R. C. Ponder
C. P. F. Quinnell
C. H. J. Rey
F. W. B. Rilstone
D. G. Sharp
G. F. Smart
D. Stafford-Clark
I. M. G. Stewart
G. N. J. Thomas
W. Thomson
D. Tumarasvin
A. J. Walker, B.Sc.
K. H. Walter
J. M. W. Wells
R. West
E. Williams
H. Wormald
J. A. Yates

CONJOINT BOARD.
D.P.M.

PART I.
Anatomy and Psychology.
June, 1934.

G. B. Palmer.

Papers by Guy's Men

W. E. Herbert and A. R. F. Thompson. A practical comparison of modern gold inlay techniques. *Brit. Dent. Jour.*, 1934, lvii, 184.

G. B. Dowling. Localised myxœdema with hyperthyroidism. *Proc. Roy. Soc. Med.*, 1934, xxvii, 1361; Sect. Dermat., 63.

H. W. Barber. Two cases of Rosaceous tuberculide. *Ibid*, 1362; Sect. Dermat., 64.

D. Denny-Brown. Involuntary movements, ? Torsion spasm. *Ibid.*, 1357; Sec. Neurol., 53.

C. Worster-Drought. Neurofibromatosis, central and subcutaneous. *Ibid.*, 1357; Sec. Neurol., 53.

Robert Bradlaw. Three cases of neuralgia. *Ibid.*, 1407; Sec. Odontol., 47.

N. Mutch. The medicinal treatment of chorea (calcium aspirin). *Brit. Med. Jour.*, 1934, ii, 246.

L. J. Witts. Allergy and asthma. *Clin. Jour.*, 1934, lxiii, 323.

W. Gordon Sears. Carcinoma of the lung. *Clin. Jour.*, 1934, lxiii, 328.

Peter G. McEvedy. Diseases of the salivary glands. *Clin. Jour.*, 1934, lxiii, 334.

E. T. Conybeare. Renal function tests. *Jour. Clin. Res.*, 1934, xx, 81.

W. Courtney Lyne. An inquiry into the factor causing variation, with its consequent bearing on the origin of species, and the probable mode of its working (concluded). *Dental Record*, 1934, liv, 413.

W. D. Doherty. Common minor soft-tissue injuries and their treatment. *Practitioner*, 1934, cxxxiii, 132.

J. H. Badcock. Odds and ends of dental practice. *Brit. Dent. Jour.*, 1934, lvii, 240.

A. Gordon Signy. The diagnosis and treatment of early poliomyelitis. *Post-Grad. Med. Jour.*, 1934, x, 311.

A. F. Hurst. Some useful drugs and how to give them. *Clin. Jour.*, 1934, lxiii, 353.

T. B. Johnston. A note on the peduncle of the flocculus and the posterior medullary velum (with six text-figures). *Jour. Anat.*, 1934, lxviii, 471.

Maurice Campbell. The respiratory exchange during exercise in heart disease—III. *Quart. Jour. Med.*, 1934, iii (N.S.), 369.

E. P. Poulton and W. L. Watt. Exophthalmic goitre with deep X-ray therapy. *Lancet*, 1934, ii, 535.

Archibald D. Marston. Notes on the use and technique of general anæsthesia in dental surgery, with special reference to Evipan. *Med. Press*, 1934, clxxxix, 211.

Appointments

Gordon Covell, Director, Pasteur Institute of India.

N. L. Lloyd, Physician for Infant Consultations, Wilson Hospital, Mitcham.

Change of Address

E. C. Irish, Windyridge, Gilling Road, Richmond, Yorks.

P. G. Stainton, The Ferry House, Boston, Yorks.

Marriage

BUNYAN—WEBBER.—On Saturday, September 1st, 1934, at Southwark Cathedral (quietly), John Bunyan, L.D.S., R.C.S. (Eng.), to Helen Webber.

Notice

During the year 1934-5 the Dental Society meeting will be held fortnightly on Tuesday evenings at 5 o'clock, commencing on October 2nd.

Will anyone wishing to read a paper or casual communication kindly submit their suggestions to the Hon. Secretary, Mr. E. B. Briault.

EDS. { D. P. K. / P. W. C.

GUY'S HOSPITAL GAZETTE

A Journal of Medicine, Surgery, Dentistry and Hospital News.

PUBLISHED FORTNIGHTLY.

Volume XLVIII *29th September* 1934 *Number* 1205

PASSIM

THE death of Mr. Trethowan, on September 13th, while on holiday in Stockholm, from septicæmia following tonsillitis, came as a terrible and rude shock to all his many friends and to that multitude of patients which he had treated either privately or in connection with his extensive hospital practice. His was a gruff personality which on first impressions by no means always won affection. When one reached within the forbidding exterior one appreciated the sincerity which pervaded all his work. He never feared to express his opinions, no matter who the patient or what the assembly, and his very enthusiasm would not tolerate any departure from the routine of a treatment he advised.

It is difficult to assess the loss which his death will mean to Guy's. As an operator he was supreme, and he ranked along with Lane as a teacher of technique. We are fortunate in being able to publish three obituaries written by men who knew him intimately both in the operating theatre and in private life, and who testify to the devotion which "Treth" engendered. We feel we cannot allow this opportunity to pass without paying some tribute to Mrs. Trethowan, to whom we offer our sincerest sympathy. For many years she acted as "Treth's" secretary at Orthopædic Out-Patients, and thereby earned the gratitude of generations of dressers for having saved them from the difficult task of clerking to a man whose mind moved so rapidly. A memorial service was held in the Hospital Chapel on September 18th.

IT is pleasant to note a fall in the maternal mortality rate, and at the same time interesting to speculate if any credit for this will be taken by those municipal councils which have lately concerned themselves with maternal welfare. Considerable sums of money have and are being spent on the establishment of municipal maternity homes, which the mothers of the districts are exhorted to enter. This, in itself, is an admirable thing, but there would be more cause to congratulate these municipal authorities on their efforts had they chosen to co-operate more closely with the services already existing.

An example of what can happen is seen in a district which used to be adequately served by three big hospitals. The local council there set up additional maternity services, where the women can be attended by a municipal midwife. These midwives had first to tout amongst the expectant mothers, offering as inducements home helps in their homes during their confinement. The established hospitals, who had not a free hand with the ratepayers, have lost the patients. The inadequacy of these centres is shown directly anything goes wrong. At great expense, a municipal specialist is called in, and all he can do is to order the patient to be sent to one of the original three hospitals.

In other districts where the existing services for those unable to afford doctors were limited to midwives, the councils have built at considerable expense hospitals of 20 beds or so. Here only normal cases are taken; directly anything goes wrong the patient is referred to an established hospital—if in the south of London, possibly to us. The total cost per delivery may be £10 or more; the charge to the mother varies, but may average £3. Even this sum is beyond many, and the type of woman on whom the council's money is being spent is one whose husband is earning good wages, and could in any case afford a doctor. The really poor have still to have their children at home or in a voluntary hospital, where the beds are limited.

The municipal councils, where they have entered into competition with the established services of other hospitals, fail to serve the best interests of the mother and hinder the training of the medical student. If their object is to effect a substantial improvement in the maternal mortality and morbidity figures, then they would serve this purpose far better by making a substantial grant towards enlarging the existing well-established hospital midwifery services than by the setting up of competitive establishments, where the mortality is by no means necessarily less than on our own district. Some arrangement along the lines of the V.D. Department should be possible. This Department, which is financed by Public Bodies, is run by, and has all appointments made by, a Hospital Committee.

It is a good deal to hope for such altruism in quarters where it is not usually found, but the use of the money in this way would achieve far more, and might even in the long run provide as many votes for the council.

THE Catering Company has very kindly granted £200 for the repair and reconditioning of the old Squash Court. The court, when used at all, is at present used for fives, as its asphalt floor and incorrect measurements have made it useless for squash. Repairs will include the laying down of a new floor, closing in of the back and sides, and moving in one of the walls 2 feet. It should be possible to convert it into a first-class court. The position of the Squash Club will then be very happy.

It was founded last year and had a very successful season, but was cramped in all its home fixtures by having only one playable court. This year the Club has several new fixtures, and will play in the first division of the Hospitals Cup; last year we won the second division and were defeated in the final by University College Hospital. The open competition, which attracted such a large and varied entry, will be held again early in October, and fixtures start soon after. The popularity of the game fully justifies the expenditure of the generous grants of the Catering Company. It provides for many their only—and to many more their most enjoyable—form of exercise during the winter.

THE Clubs' Union has been fortunate in securing the use of two first-class supplementary sports grounds for this winter. It is, perhaps, unfortunate that the grounds are not served by rail service from London Bridge, but in these days when sports grounds near London are at such a premium, it is in some ways a triumph to have secured at all grounds which promise to be so satisfactory.

One ground has been rented from the Malden and Coombe Urban District Council, and the address is Malden Road, Worcester Park. Here there is a hockey pitch for the 1st XI and a rugger ground probably for the extra A and B. The nearest station is Worcester Park (1*s.* 5*d.* return from Waterloo). The changing-room accommodation is excellent.

The other ground is on the University College School Old Boys' ground at Syon Lane, Osterley Park. Here there will be a hockey ground and rugger ground for the junior teams. The nearest station is Syon Lane (9*d.* return from Waterloo). The changing-room accommodation here is fair, being not quite as good as that at the other ground.

THE Musical and Operatic Society are this year presenting the Gilbert and Sullivan opera "Ruddigore" at the Fortune Theatre for the four evenings from November 28th to December 1st. These shows entail an enormous amount of work on the part of the performers and producers, so that we hope our readers will bear these dates in mind when making their social engagements for the coming winter. Two years ago we regret to say that the Society suffered a financial loss of approximately £5 on their production of "The Mikado," and it is necessary, therefore, that the utmost support should be given to the production this year, so that this loss may be reversed and a cheque tendered to the Hospital Treasurer out of the profits.

THE Physical Society opens its programme on October 11th this year with a lecture by P. P. Laidlaw, Esq., F.R.S., on "Experimental Influenza."

Dr. Fawcett will be in the Chair. It will be remembered how last year Dr. Laidlaw's work on the production of influenza in ferrets established the ætiology of influenza. We hope that as many as possible will make an effort to welcome Dr. Laidlaw, who for some years worked at this hospital as a student and, later, as a teacher.

WE wish to congratulate the following on their appointments to "Clinical":—

C. A. Boucher	J. R. Dickinson
J. E. Darlow	F. I. Evans
D. A. Davies	L. N. Trethowan

Obituary

WILLIAM HENRY TRETHOWAN, Esq., M.B., B.S.(Lond.), F.R.C.S.(Eng.)

(Senior Orthopædic Surgeon to Guy's Hospital)

IN the death of William Henry Trethowan, Guy's as a whole and the Orthopædic Department in particular has suffered an irreparable loss.

It is often said that no one is indispensable, that a gap can always be filled, but I have yet to find the man who can adequately fill the gap left vacant by the loss of our lovable "Treth."

It would require a consummate artist to paint even a moderate pen-picture of this remarkable man, for he was a genius and genius defies description. Of no man could it be more truly said that success is inherent in one; what one succeeds in is a matter of circumstances. Upon whatever career Treth had decided to embark, there is no doubt he would always have risen to a dominating position.

One cannot begin to understand the spirit of Treth unless one keeps in mind the fact that his outstanding characteristic was his amazing power of concentration. No problem was so small but what he gave it his complete attention. So completely did he identify himself with the matter in hand that time, place, even persons had for the the moment no meaning for him. Watch him at the piano, listen to him making a speech, particularly on an emotional theme, watch him at Out-Patients or operations, talk with him on your own personal difficulties, the picture was always the same—that of absolute absorption and sympathy.

The impression I shall always retain of him is Treth, half a flight of stairs ahead of everybody else; it was so characteristic of the man. No ordinary person could keep up with him in action, thought or feeling.

These powers of concentration and identification made him the great man he was, but they are exacting gifts and spurred him on to greater and yet greater effort, and those of us who watched him with affection and understanding were afraid when we saw the call they were making on his vitality.

What more exhausting combination can there be than this concentration, a colossal practice with patients clamouring for his help, and an irresistible desire to serve high and low alike to his utmost capacity?

Some may have been hurt by Treth, for he was sometimes brusque in his manner. At Out-Patients and in the operating theatre he was apt to be intolerant of noise and interference, and he would rebuke the offender brusquely. No doubt it sometimes hurt. But the sting would always be taken out of anything Treth said or did when one remembered that his harshness was entirely impersonal; he bore no malice, it was due to his intense interest in the thing he was doing. Besides, what did it matter, when we were having the privilege of watching a genius at work? To have been hurt by Treth is a confession of pettiness and an inability to appreciate that one was dealing with an intellect and a soul greater than one's own.

What need is there to talk to Guy's men about his work? As a teacher he was brilliant and inspiring; as an operator he was unsurpassed; as a diagnostician almost infallible.

The Orthopædic Department will remain as a monument to him, and may his spirit help those lesser men who follow him to keep alive and alert the Department he created and served so wholeheartedly.

C. L.

IT was the writer's great privilege, some years ago, to live under the late Mr. W. H. Trethowan's roof for a period of 18 months, as his private assistant. Of his prowess as a surgeon and his unique, almost uncanny, skill as an operator others will write. It is of the qualities that endeared him to all with whom he came in contact that the writer wishes to pay humble tribute to his memory. Those who were honoured by his friendship and inspired by his teaching feel a sense of irreparable loss, for Treth can never be replaced, either as a man or as a surgeon.

Treth infected everyone with his enthusiasm, and he had a wonderful capacity for getting the best out of all those around him. He did not suffer fools gladly, but, on the other hand, he would go to endless pains to place his vast store of knowledge and experience at the disposal of anyone who displayed eagerness to learn. As an operator he was supreme—in a class all by himself. He used to say that at an Orthopædic meeting his cases were always recognised at sight by the length of the incision. This was quite true, but the excellence of the result would give an additional clue to the operator. One of his favourite *mots*

when teaching was to point out that the whole of orthopædic diagnosis could be expressed in three words, " range of movement." When this is examined in all its implications it is seen that this was indeed an inspired aphorism, for fundamentally all orthopædic disabilities show some departure from either the active or passive, or both, normal " range of movement."

Treth was, in every sense of the word, a " character." He never lost his West Country characteristic of friendliness, and he would address all and sundry, from a duchess to a dustman, as " My dear." All his patients quickly became devoted to him, and their devotion never waned—even when, as was his frequent custom, he would sing " Brief life is here our portion " as the patient was being induced under an anæsthetic ! Many old Guy's nurses, no doubt, will recall his " My dear, you really are a most unfortunate woman "—which was his way of indicating faint displeasure.

Treth's one absorbing hobby was music, particularly the organ. He installed in the billiard room of his house at Hampstead a beautiful instrument having about 30 speaking stops and three manuals. He was, of course, intensely interested in the mechanical side of its erection, and it was he who solved the problem as to where to place the 32-ft. diapasons ; they were, as he expressed it, " hung like pictures " horizontally along the wall. His first action on returning home, even in the small hours, perhaps after operating in the country, was to go to his beloved organ and, as he said, " fill the house with beautiful music." He was no mean performer himself, but best of all he loved to obtain the services of celebrated organists to come and play to him, when he would sit in ecstasy, revelling in the grandeur of Bach and Beethoven. He would go anywhere to hear good music, and his favourite bedside book at one time was Macpherson's " Harmony and Counterpoint." No dinner of the British Orthopædic Association was considered complete until Treth, accompanying himself at the piano, had sung two or three convivial songs in the choruses of which all joined. And many old Guy's men who qualified ten or so years ago will recall the sing-songs at which Treth presided, after he had finished operating at Queen Mary's Hospital, Carshalton.

Treth owed a great deal to the help and devotion of his wife, a grand-daughter of Arthur Durham. To her and her two sons all who held him in such great affection offer heartfelt sympathy.

H. A. H. H.

Mr. Harry Platt (President, British Orthopædic Association) writes :—

THE death of W. H. Trethowan at a comparatively early age, has robbed British orthopædic surgery of one of its most distinguished and vigorous exponents. Although a devoted son of Guy's in every sense of the term, Trethowan, with others of his generation who had adopted orthopædic surgery as a career, was drawn into a wider allegiance. Before the Great War he had spent some time in Liverpool watching the practice of Robert Jones, to whom the vivid Celtic personality of the young Guy's man made an instant appeal. When Sir Robert was called upon to organise the Military Orthopædic Department of the Army Medical Service he chose Trethowan as one of the original members of the staff of the great hospital known as " Shepherd's Bush." Thus Trethowan joined that little company of men who became united in devotion to a great chief—a devotion which endured long after the war and which ultimately found its expression in the Robert Jones Birthday Volume and the foundation of the Robert Jones Dining Club.

Amongst the immediate disciples of Robert Jones, Trethowan occupied a special position, for his methods and ideas appeared to be little influenced by the principles of the Liverpool school. One reason for this was that Trethowan was a superb natural craftsman ; his skill as an operator was almost uncanny, and the more tedious, less dramatic methods of conservative orthopædic surgery did not attract him. His views on most of the problems of his art were original and provocative, and his intervention in discussions at meetings of the British Orthopædic Association at once aroused a somnolent audience to a lively interest in the debate. When Trethowan stood up to speak, words issued forth in a veritable spate. He spoke with intense emotion—almost like a revivalist—and usually appeared to be making a personal attack on all previous speakers. He was oblivious of the effect of his words on those members of the audience who were hearing him for the first time. His friends, however, enjoyed these onslaughts, and vied with each other in drawing his fire. We recognised the quality of the man and were proud that orthopædic surgery was represented at a great teaching hospital by so forcible a personality. A characteristic incident comes back to my mind very clearly. At one of the earlier meetings of the British Orthopædic Association, Trethowan showed a patient with a gross deformity of the foot, which he proposed to correct by a very extensive open operation. Someone in the background of the audience murmured that the correction could be achieved

by means of the Thomas wrench. Trethowan immediately turned towards the heckler and, his eyes blazing with fire, said: "The Thomas wrench is a barbarous instrument; it should never be used; it tears the ligaments out by the roots." A gasp of horror went round the room, for Sir Robert Jones was sitting immediately opposite. Sir Robert took off his pince-nez and smiled benignly. Trethowan carried on, blissfully unconscious that he had said anything which might have given offence. Half an hour later, when the demonstration was over, we saw Sir Robert and Trethowan walking up and down, arm in arm, "Treth" still talking and gesticulating in his usual eloquent fashion.

In recent years Trethowan appeared less frequently at meetings of the British Orthopædic Association and the Royal Society of Medicine. Occasional bouts of ill-health and the cares of a heavy practice absorbed the greater part of his energies. He attended the last meeting of the Robert Jones Dining Club in June of this year, and seemed to be in most excellent health. He was in inimitable form on that occasion, and this is the last glimpse that many of us had of him. "Willie" Trethowan was secure in the affections of his contemporaries, and we shall cherish his memory to the end of our days.

W. H. Trethowan, Esq., M.B., B.S. (Lond.), F.R.C.S. (Eng.), M.R.C.S., L.R.C.P. (Lond.).

Registered at Guy's, Sept., 1899.

Entered Guy's, May, 1901; aged 19.

College of Preceptors, 1899.

London Matriculation, Jan., 1900.

Preliminary Scientific, Jan., 1901.

Entrance Scholarship, Science, Sept., 1901.

Arthur Durham Prize, March, 1902 (1st year).

Arthur Durham Prize Certificate, March, 1903.

Assistant Demonstrator, Histology, July, 1902.

Hilton Prize for Dissection, 1903.

M.R.C.S., L.R.C.P., 1906.

M.B., B.S. (bracketed Gold Medal), Oct., 1906; Honours Medicine, Surgery, Midwifery, Diseases of Women.

Clinical Assistant, 1907.

O.P.O., April-June, 1907.

H.P. to Dr. Pitt, July-Dec., 1907.

Obstetrical Registrar, Jan.-June, 1908.

Resident Surgical Officer, 1910-1912.

Orthopædic Surgeon, 1913.

Published writings of the late W. H. Trethowan:—

Orthopædic surgery; system of surgery (Choyce). 1923, 2nd Edn., Vol. iii, pp. 1017-1127.

Orthopædic surgery; system of surgery (Choyce). 1932, 3rd Edn., Vol. iii, pp. 902-1049.

Fracture-dislocation of ankle-joint. *Jones Birthday Volume*, pp. 409-421 (1928).

The treatment of hammer toe: Part I—General considerations; conservative measures. *Lancet*, 1925, i, 1257.

The treatment of hammer toe: Part II—Operative measures. *Lancet*, 1925, i, 1312.

With H. A. T. Fairbank and W. A. Cochrane (*et al.*). A discussion on fractures in the neighbourhood of the ankle-joint; II. The operative treatment of ankle fractures. *Lancet*, 1926, i, 90-96.

Disabilities of the feet due to static or mechanical causes. Roy. Soc. Med., Ten Post-Grad. Lectures, London, 1922, 116-148. Deformities and disabilities of the feet due to paralysis. Roy. Soc. Med., Ten Post-Grad. Lectures, 1922, 149-210.

Simple fractures of the upper and lower limbs. *Orthop. Surg.* (*Jones*), Lond., 1921, i, 59-64.

Fractures of the upper limb. *Orthop. Surg.* (*Jones*), Lond., 1921, i, 64-73.

Fractures of the lower limb. *Orthop. Surg.* (*Jones*), Lond., 1921, i, 74-89.

Some mechanical considerations in the surgery of the leg. *Guy's Hospital Gazette*, 1920, xxxiv, 247-268.

With H. C. Cameron. Case for diagnosis: enchondromata. *Proc. Roy. Soc. Med.*, Lond., 1917-18, xi; Sect. Stud. Dis. Child., 45-49.

With H. C. Cameron. Case for diagnosis (multiple enchondromata). *Brit. J. Child. Dis.*, Lond., 1918, xv, 273.

The functional result of fractures. *Guy's Hosp. Gazette*, London., 1917, xxxi, 397-405.

Manipulative methods of treatment in the surgery of bones and joints. *Guy's Hosp. Gazette*, 1914, xxviii, 490-496.

Uterine fibroids and pregnancy. *Australas. M. Gazette*, Sydney, 1913, xxxiv, 119-121.

Acute anterior poliomyelitis; an account of recent important experimental and epidemiological investigations in Sweden. *Lancet*, 1912, ii, 938-942.

Some notes on peritonitis and its treatment. *Australas. M. Gazette*, Sydney, 1910, xxiv, 465-468.

A case of tetanus following injury to face without spasms of limbs or trunk muscles. *Australas. M. Gazette*, 1907, xxvi, 348.

Some Chest Cases

A Clinical Lecture delivered by N. L. Eckhoff, Esq., M.S.

GENTLEMEN,—I have chosen this title for my lecture to-day for several reasons. In the first place the value and importance of surgery in the treatment of diseases of the chest is daily becoming more obvious. The war served to teach us a great deal in this direction, and advance has continued uninterruptedly since. My second reason is because chest cases tend to be scattered about the medical and surgical wards of the hospital, and it is not easy for the student to get a comprehensive view of the factors that control and dictate treatment. My third reason is that I was able to study this branch of surgery particularly closely during a recent visit to Scandinavia, which countries have long been in the fore-front in thoracic work.

I have been fortunate in having several cases of more than usual interest under my care at another hospital, and, although I cannot hope to cover more than a small part of the ground to-day, I trust that I shall be able to bring home to you some important principles.

In all chest surgery close co-operation between physician and surgeon is very necessary—a co-operation which in this hospital is being extended in all branches of our work. Nevertheless, it is equally important for the practising surgeon to be able to recognise the clinical signs of chest disease. I shall not be able to-day to dwell on all the diagnostic aspects, but will concentrate chiefly on treatment.

ACUTE EMPYEMA

This subject has recently been covered very admirably by Mr. Brock in two articles in the *Guy's Hospital Gazette*, and I would exhort you all to read his contribution and study it thoroughly. As this is concerned chiefly with treatment, it may be well for me to mention here some points in diagnosis.

Diagnosis

Acute empyema is usually a complication of an infective process in a neighbouring organ, and therefore commonly follows pneumonia, or intra-abdominal suppuration. It may occur in acute specific infections, *e.g.*, influenza or osteomyelitis, without the lung being obviously involved. Sometimes the infection is from without—as in a stab wound—or following lack of care in the needling of a hydrothorax.

The symptoms are malaise, dyspnœa, a feeling of tightness in the chest, and pyrexia of the swinging type. The physical signs may be classified as follows :—

1. Those due to the presence of fluid.—Dullness behind, extending high in the axilla. Breath sounds may or may not be conducted to the surface.
2. Those due to compression and displacement of the lung.—Skodaic resonance and bronchial breathing at the upper and medial part of the chest.
3. Those due to displacement of the mediastinum.—Alteration in the position of the apex beat. This is a most important sign.
4. Changes in the chest wall.—Diminished movement, bulging of the chest, and obliteration of intercostal spaces. Occasionally an empyema ruptures subcutaneously, and subcutaneous abscesses may follow exploratory puncture.

The usefulness of radiography in diagnosis is indicated below.

Treatment

I must first draw attention to the excellent work of Cameron and Osman, now widely recognised, differentiating synpneumonic and metapneumonic empyemata. In synpneumonic empyemata—those occurring at the same time as the pneumonia—operation is almost invariably fatal. In metapneumonic empyemata the prognosis is quite good, provided the patient has not suffered too great an emaciation in the meantime.

Aspiration is first carried out for diagnostic purposes ; later, to reduce cardiac and respiratory embarrassment. If part of the fluid withdrawn is replaced by air, a greater quantity of fluid may be withdrawn, and valuable information obtained by subsequent radiography. Where previously the fluid produced a dense shadow, we now have translucent air, and are better able to estimate the size of the cavity and the degree of shifting of the mediastinum.

On some occasions aspiration (with or without air-replacement) will cure an empyema.

Rib resection is not performed until the fluid aspirated is thick—containing only a small amount of serum. (Note Mr. Brock's suggestions for gauging this moment.) This will usually be two to three weeks after the first appearance of fluid in the chest.

The rib chosen for resection must be near the bottom of the cavity and fairly far back. The

posterior axillary line is suitable in the majority of cases. The operation should be performed under local anæsthesia, though in a very nervous patient gas and oxygen may be required in addition. A large tube is inserted, going some little distance into the cavity. A Tudor-Edwards tube is useful, especially in the later stages of treatment. I prefer to lead the tube for a few days into a large bottle under a layer of antiseptic, to receive the large amount of pus that will probably discharge. When this amount diminishes, the tube should be shortened, so as to drain into the dressings, at the same time being firmly anchored to the skin. The tube is to be left in until such time as the cavity has disappeared or is reduced to a minimal size. The size of the cavity should be measured, as suggested by Brock, by filling it with fluid from a syringe, keeping the opening at the highest point.

Closure of the cavity will only take place when (1) the infection has been overcome, (2) the lung has re-expanded. The first is brought about by natural processes, the second by causing the patient to do breathing exercises. Irrigation with Dakin's solution aids the first by its antiseptic action and the second by its chemical action, for it helps to remove fibrinous deposits which hinder the expansion of the lung.

I have spent rather more time than I had intended upon acute empyema, but I feel that it is an essential introduction to my subject—the description of certain cases that require special comment. A large proportion of acute empyemata, properly managed, get well in a relatively short time, but the first case illustrates some of the difficulties.

Case I

F. R., male, *æt.* 20.

20-11-33.—Admitted to hospital with the following history :—

Had a cold 14 days ago ; worse one week ago, with severe pain in the left side on breathing.

Signs of fluid were found in the left chest.

21-11-33.—Aspiration ; slightly turbid fluid withdrawn. Direct smear and culture : pneumococcus.

25-11-33.—Aspiration repeated ; fluid more turbid.

29-11-33.—1½ pints withdrawn.

10-12-33.—1½ pints of frank pus withdrawn.

16-12-33.—Flocculent green fluid withdrawn.

20-12-33.—Resection of rib under local anæsthesia. Large abscess cavity found. Tudor Edwards' tube inserted.

4-1-34.—Drainage tube removed. Rubber drain inserted. No discharge.

10-1-34.—Lipiodol X-ray attempted, but entrance to cavity very difficult to find and X-ray not successful.

Catheter was eventually passed into the cavity, and Lipiodol X-ray showed an enormous cavity (Fig. 1).

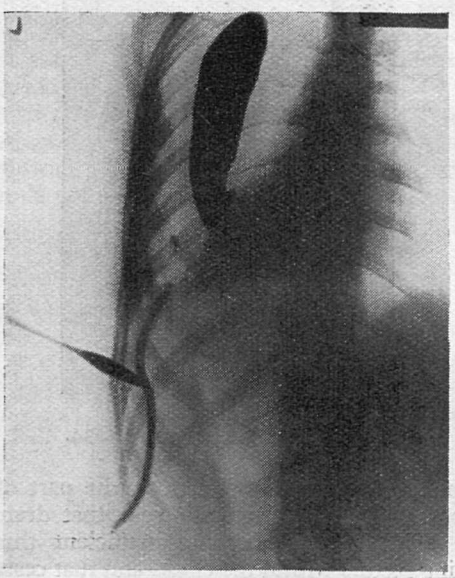


Fig. 1 (Slide 51).—F. R., 23-2-34.

A drainage tube was inserted and cavity started to drain freely again.

Three weeks later drainage diminished. The patient again became pyrexial, and on aspiration of chest foul pus was withdrawn.

31-1-34.—A further rib resection was performed more posteriorly and another tube inserted. Cavity washed out daily with Dakin's solution.

After this the patient made steady progress, but the cavity drained with difficulty.

Since the second operation, repeated measurements and Lipiodol X-rays show that the cavity is decreasing in size (Fig. 2). Tube has since been removed and the patient is making a satisfactory recovery.

July, 1934.—Cavity closed.

Comment

In this case the total invalidity has been eight months. The rib resection was performed about five weeks after the first sign of pleural involvement. Two weeks later the drainage ceased, and I feel sure this was due to blockage of the tube by an elevated diaphragm. Lipiodol X-ray revealed that the cavity still existed, and a tube was replaced, but this still failed to drain well.

A further resection (nearer the paravertebral gutter) had to be performed, and diminution in size of the cavity has slowly followed. Lung expansion has been extremely slow throughout

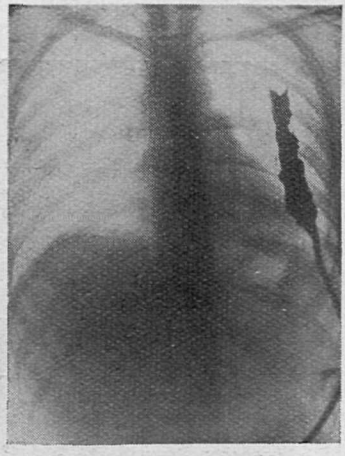


Fig. 2 (Slide 53).—F. R., 5-6-34.

in spite of painstaking efforts on the part of the patient. We learn from this case that drainage, once efficient, may become inefficient through altering factors within the chest, and that cessation of drainage is in itself no indication that the cavity has disappeared. Careful measurement is the only sure sign.

Case II

C. H. M., male, *æt.* 75.

26-9-30.—Admitted to hospital with the following history :—

Had had a hernia for some years. This became painful 12 hours prior to admission. Vomited once. Had felt seedy for the last month. Cough for a week.

Had rib resection in 1900 (left chest).

He was found to have a right strangulated inguinal hernia.

26-9-30.—Herniotomy performed under local anæsthesia. Coil of gut was found caught in the neck of the sac.

7-10-30.—2½ pints of pus aspirated from left chest.

12-10-30.—1½ pints of pus aspirated.

18-10-30.—Rib resection under local anæsthesia.

28-10-30.—Improved. Some lung expansion. Drainage tube out.

5-11-30.—Further pyrexia. One pint of pus evacuated from wound. Tube re-inserted. Chest washed out with Dakin's solution.

16-5-31.—Patient discharged. Wound dry and healed.

11-7-32.—Re-admitted, complaining of weakness, general malaise and pyrexia. Was found to have a recurrent empyema on the left side with pus pointing beneath the pectoral muscle. One pint of pus aspirated through pectoral.

15-7-32.—One pint of pus evacuated from the axillary puncture.

22-7-32.—Pyopneumo-thorax.

27-7-32.—Rib resection.

Culture of pus—Friedlander's bacillus.

Large masses of cotton wool extruded through wound during convalescence.

7-9-32.—Patient discharged. Healed.

18-4-34.—Re-admitted, complaining of shortness of breath, cough and headache.

Recurrent empyema of left chest diagnosed.

One pint of foul pus aspirated on admission. Very thickened pleura was present, at least ½ inch thick.

20-4-34.—Resection of rib performed. Pleura removed for section. Cavity washed out daily with saline.

18-5-34.—Lipiodol X-ray showed a large pleural cavity (Fig. 3). Great difficulty was experienced

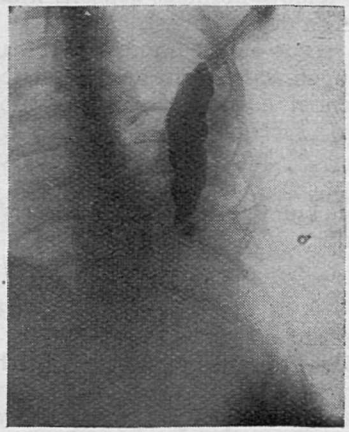


Fig. 3 (Slide 55).—C. H. M., 18-5-34.

in finding the entrance to cavity, which was very narrow. A catheter was inserted and changed daily until a fair-sized tube was in.

1-7-34.—Lipiodol X-ray. Cavity a little smaller. Still some slight drainage.

Section ; pleura showed only chronic inflammation.

25-7-34.—Cavity much smaller (Fig. 4).

Comment

This man had an empyema of the left chest in 1900. He was admitted in 1930 with a recurrent

empyema, which doubtless antedated the strangulated hernia. The empyema took eight months to heal. He was re-admitted in 1932 with a further recurrence, when, following drainage, cotton wool was extruded from the wound (which I here pass for inspection). Since in 1930 no wool was used

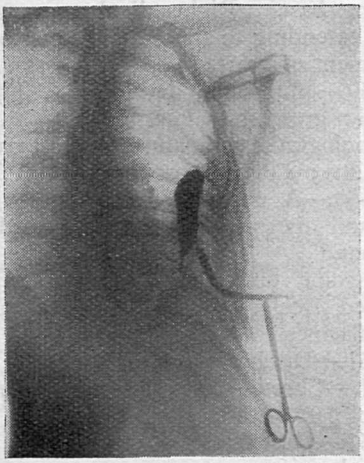


Fig. 4 (Slide 57).—C. H. M., 25-7-34.

in the theatre until the final dressing had been applied, and since in 1900 cotton wool was freely used in place of gauze sponges, it is reasonable to argue that this foreign body had remained in the chest for 30 years, and that the empyema was dormant for this period. (Brock has quoted a case where recurrence followed after 19 years.)

Healing quickly followed the extrusion of the foreign body.

The recurrence in 1934 was disappointing. An extremely thickened parietal pleura was now discovered ($\frac{1}{2}$ inch at least), and I can visualise a similarly thickened visceral pleura. I think it is doubtful if the cavity has ever really closed, but the great age of the patient (now 80) precludes any more extensive operation, such as we may have occasion to mention later.

Case III

S. B., male, *æt.* 63.

14-5-32.—Patient first admitted to hospital with the following history :—

Five weeks before—sudden onset of shooting pain in the left chest. Pain lasted two weeks; worse on inspiration. Constant cough with foul sputum.

On examination, signs of empyema were found in the left chest. Chest aspirated, and 19 oz. of foul pus evacuated.

18-5-32.—Rib resected and empyema tube inserted.

Bacteriology of pus : mixed infection, long-chained streptococcus predominant.

20-7-32.—Patient discharged apparently well.

14-9-32.—Wound broke down.

27-9-32.—Patient re-admitted. Lipiodol X-ray showed a large area in the pleura situated posteriorly extending from the 7th to 11th rib (Fig. 5).

12-10-32.—Operation. Irregular cavity was found with fresh adhesions. Portions of the 9th and 10th ribs with the parietal pleura were excised and a Tudor-Edwards' tube inserted. During operation the patient coughed up pus. Patient went on expectorating pink-stained pus following operation. Formation of bronchial fistula suspected.

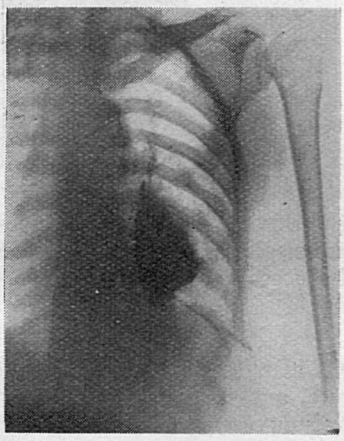


Fig. 5 (Slide 59).—S. B., 30-9-32.

12-11-32.—General condition much better.

4-1-33.—Patient discharged from hospital with sinus still discharging slightly.

13-2-33.—Patient was re-admitted for bronchography. Cavity communicates with bronchus (Fig. 6).

16-4-33.—Patient re-admitted. His general condition had become progressively worse and he had difficulty in walking. On the day previous to admission he had a fit during which he was unconscious. Swelling of right ankle. Coughing up fœtid foul pus.

Four hours after admission the patient started profuse sweating, with twitching of the left face, eyelid and forehead, and became unconscious, with marked rigidity of both legs.

Lumbar puncture : fluid under greatly increased tension. Patient had loss of articulate speech for 12 hours after attack.

18-4-33.—Patient had another attack with the same symptoms.

19-4-33.—Patient had another attack and died after a convulsion.

Post-mortem report.—Left chest: 4 oz. of thick offensive pus walled off in pleural cavity; thickened pleura. Left lung very enlarged. Three large abscess cavities containing offensive pus in

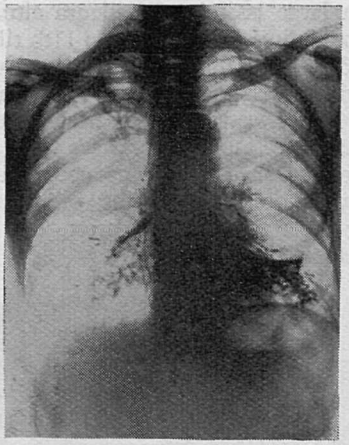


Fig. 6 (Slide 62).—S. B., 19-2-33.

this lung. Brain: multiple abscesses in both cerebral hemispheres. Cerebellum clear; subperiosteal abscess in the right tibia.

Comment

This old man had an empyema whose origin was obscure, and it was felt throughout that an underlying lung carcinoma was a possibility. The wound healed in two months, but it is doubtful if the cavity really closed. Again cessation of discharge was taken to indicate healing, whereas we now know it would have been better to measure and outline the cavity before allowing the external wound to close.

At the second operation a bronchial fistula was indicated by the fact that bloodstained pus entered the mouth. An attempt was made to close the cavity (and the fistula) by removing considerable portions of two ribs and parietal pleura. This was only partially successful, and the presence of the fistula prevented lavage. Age, too, precluded further operation, and the sad end followed one of the recognised complications, *i.e.*, brain abscess.

Case IV

F. C., female, *æt.* 44 years.

16-8-30.—First admitted to hospital with the following history:—

Cough started in November, 1929. Lost a stone in weight in a year. Appetite poor. Dark brown sputum for the last few months. Had a bout of coughing in the morning which lasted about an hour, resulting in about a teaspoonful of sputum. Orthopnœa; shortness of breath on exertion.

20-9-30.—Fluid drawn off. Inoculation into guinea-pig showed no T.B.

18-10-30.—Fluid level up to 10th dorsal spine. Friction sounds present.

29-10-30.—X-ray showed no movements on the right base. Right diaphragm not seen. Opacity extending to the 5th rib anteriorly. No displacement of heart.

8-11-30.—Empyema developed. Thick pus aspirated; greenish yellow.

Bacteriological examination.—Small gram negative bacillus; ? Pfeiffer bacillus. No T.B.

19-11-30.—A portion of the 8th rib was resected and the pleural cavity drained. Small cavity found.

After some difficulty with drainage, wound discharged freely. Cavity irrigated with eusol and acriflavine.

14-4-31.—Discharge getting less.

6-5-31.—Chronic empyema diagnosed. Resection of part of three ribs.

15-6-31.—Patient was discharged and attended daily for dressings.

25-11-31.—Patient re-admitted; wound still discharging; lung was dull to percussion at the right base; marked clubbing of fingers.

28-11-31.—Patient had small hæmoptysis and started bleeding from the sinus. Bronchial fistula manifest.

2-12-31.—Left phrenic avulsion was performed. Pus still discharging from sinus. Bacillus Pfeiffer found. No other bacteria present.

6-1-32.—Abscess cavity was explored and found to be about 2 inches in depth. The incision was made over the scar of the former operation. A resection was made of the superior rib with stripping off of the parietal pleura and removal of same. Attempt made to close bronchial fistula. Muscular flaps superiorly and inferiorly were sewn to the pleura and a drain inserted.

19-1-32.—Cough still troublesome. Sputum much less. Wound discharging still.

14-4-32.—Slight hæmoptysis.

20-4-32.—Discharged. Attending daily for dressings.

30-6-33.—Right diaphragm is as high as anterior end of 5th rib. There is slight movement on respiration synonymous with the left diaphragm. The right costophrenic sinus appeared clear. No reason could be seen for continued discharge.

26-12-33.—Patient was re-admitted, having had a cold for 14 days with loss of voice and a rigor and general malaise. Sinus not discharging so much. Diagnosis of acute bronchitis was made.

3-2-34.—Discharged.

30-7-34.—Re-admitted. Pneumonic process in right lung. Sinus still present.

Comment

In this case the pre-existing history was suggestive of a bronchiectasis, or cavitation due to tuberculosis; neither of these has been proved. After some long time a small empyema was demonstrated, and drained. The wound has never healed, and the case has clearly become one of chronic empyema. Various measures have been attempted, without success. It is now convenient to discuss chronic empyema, for Cases II, III and IV fall into this category.

CHRONIC EMPYEMA

The writings of Hedblom are usually quoted in dealing with this condition. He found the causes of delayed healing in 310 cases to be as follows:—

1. Late drainage: 70 cases (plus 35 in groups II and III).
2. Insufficient drainage: 75 cases (plus all group III).
3. Persistent infection of pleura: 90 cases.
4. Bronchial fistula: 80 cases.
5. Tuberculous pleuritis: 29 cases.
6. Foreign bodies.
7. Massive collapse of lung causing big cavities.
8. Fibrosis of lung.

Some people prefer to classify the causes of chronic empyema thus:—

A. Factors arising in the chest wall.
B. Factors arising in the pleural cavity.
C. Factors arising in the underlying lung.

A includes osteomyelitis of the rib ends, which is uncommon, and need not really be taken into account in most cases.

B includes many of the causes in Hedblom's classification, but is apt to overlook 1 and 2.

C is certainly important, and must always be borne in mind. The original empyema is apt to mask underlying lung trouble.

It is better for us not to look upon these items individually, but to realise that the process leading to chronic empyema is somewhat insidious, and that changes occur *pari passu* in all the tissues of the chest. It is for this reason that especial care must be taken in the treatment of the acute condition, first in selecting the right time for drainage, secondly the right place, thirdly in attempting to rid the pleura of its infection, and fourthly, in encouraging the lung to expand.

When a chronic empyema presents itself, one's first care is to exclude foreign bodies in the pleural cavity; next to provide adequate drainage, and to institute a course of lavage with Dakin's solution. This helps to control the infection, and is said to bring about a chemical decortication. If the lung still refuses to expand, there are two chief measures available. The one is to free the lung from its encircling pleura, and the other is to cause the thoracic wall to collapse on the shrunken lung.

When a lung has been long collapsed in empyema fibrotic changes take place in it, and the pleura becomes enormously thickened, thus further preventing re-expansion. If the pleura is stripped off in the operation known as decortication, the lung may re-expand fully, and fill the chest.

If this is not considered advisable, the chest wall may be made to collapse by removing suitable portions of ribs and parietal pleura. I will describe such an operation later.

LUNG ABSCESS

Case V

E. B., female, *æt.* 24.

22-3-33.—First admitted to hospital with the following history:—

Loss of weight and frequent sore throats. T.B. contact (fiancé—incurable pulmonary tuberculosis). Nothing abnormal was seen in the X-ray or screen of chest (Fig. 7).

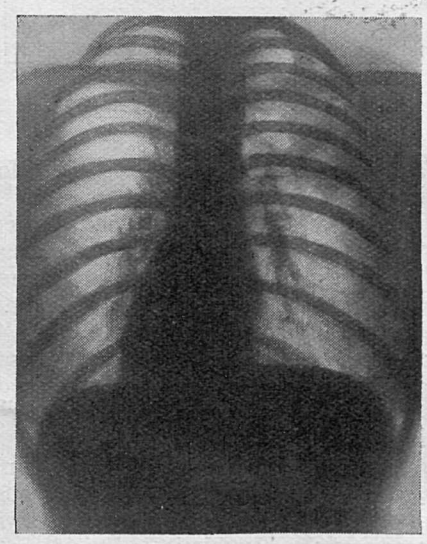


Fig. 7 (Slide 65).—E. B., 6-3-33.

22-3-33.—A large unhealthy right tonsil was removed by guillotine under N_2O.

2-4-33.—Patient discharged.

6-4-33.—Patient re-admitted, with pain in the right side of chest, pyrexia, cough, sweats and a small amount of foul sputum.

No signs of tubercle were found. Patient made a gradual recovery with gain in weight and was discharged reasonably fit.

21-6-33.—Re-admitted, complaining of chronic cough with foul sputum.

22-6-33.—X-ray showed opacity on the right side between the 2nd and 3rd ribs anteriorly.

Thought to be almost certainly an abscess of the right lung, probably at the base of the upper lobe (Fig. 8).

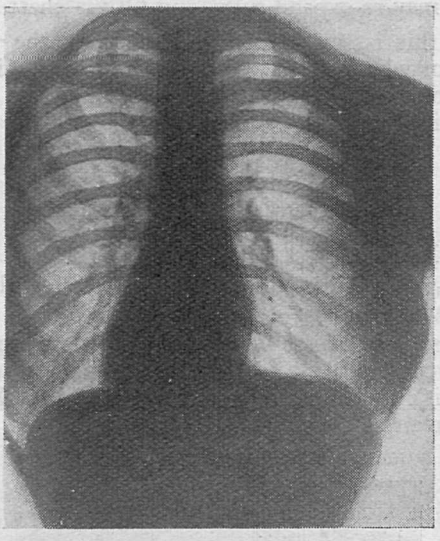


Fig. 8 (Slide 66).—E. B., 22-6-33.

21-7-33.—Patient transferred to Guy's Hospital for bronchoscopy.

Bronchoscopy was done twice, and showed that the mucosa of the upper right bronchus was slightly inflamed and granular. A little muco-pus was trickling from its orifice. No foreign body was seen and drainage seemed excellent. 40 c.c. of gomenol were introduced the first time. On the second bronchoscopy, Lipiodol was introduced, but a good picture was not obtained owing to coughing.

She was apyrexial the whole time whilst in Guy's, coughing up about 1-2 oz. of purulent sputum daily, which on cultivation always yielded streptococci of the hæmolytic and viridans type.

She was given postural treatment with exercises and a creosote mixture and seemed to be clearing up quite satisfactorily.

26-8-33.—X-rayed at St. John's Hospital: abscess cavity found to be much smaller.

10-1-34.—Patient re-admitted complaining of foul sputum and pyrexia.

10-1-34.—X-ray showed cloudy opacity in the right upper zone of interlobar septum, around an old abscess.

17-1-34.—Lateral X-ray showed that the cavity was situated posteriorly. It was decided to operate on this case by a two-stage operation to drain the abscess.

14-2-34.—First stage of the operation was performed under local anæsthesia.

Portions of the 5th, 6th and 7th ribs were resected and the extra-pleural cavity thus formed was packed with iodine and gauze. Safety-pin also packed in to mark position for further X-ray.

A further X-ray showed that the safety-pin was over the site of the abscess cavity (Fig. 9).

28-2-34.—Second operation performed. Abscess cavity opened with diathermy and thick creamy pus aspirated. Wound was packed with dry gauze to promote granulation.

Patient developed marked mental symptoms following operation, being a most difficult patient, it being almost impossible to promote sleep in any way at all.

Patient died on 14th March, 1934.

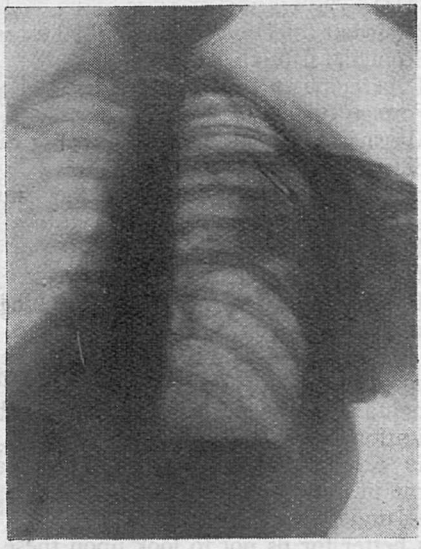


Fig. 9 (Slide 69).—E. B., 20-2-34.

Post-mortem.—A pyopneumothorax was found with further lung abscesses in the lower lobe. There seemed to have been no leakage at the site of operation.

Comment

This case speaks for itself to some extent. A lung abscess followed a tonsillectomy. Bronchoscopic treatment was found unsatisfactory. Postural treatment gave some relief. Surgical drainage might have saved her, except for the fact

that post-operative care was handicapped by her mental condition, which rendered her completely out of control. It is, however, possible to learn something of the disease from this case.

Lung abscess usually follows the aspiration of septic material at operation, or the aspiration of a foreign body. It is apparently more common in America, where the peanut-eating habit is universal. It is easy for a peanut to " go the wrong way " and be aspirated into a bronchus. An abscess forms around a smaller bronchus, and the infection invades the surrounding lung, so that a large area of infiltration is soon developed. The condition is heralded by malaise, fever and persistent cough, associated with expectoration of foul sputum. X-ray reveals an area of increased density (due to infiltration) in the centre of which is seen a cavity. The finding of a " fluid level " in such a cavity is diagnostic of abscess.

The treatment has been indicated above. As many cases are unrelieved by postural and bronchoscopic treatment, I should like to add a word or two about surgical treatment.

The cavity is first accurately localised in relation to the chest wall (by taking X-ray pictures in two planes after marking the skin with an opaque body). Portions of two or three ribs overlying the cavity are removed under local anæsthesia, taking great care not to open the pleura. The wound is packed with gauze soaked in iodine—this is to promote adhesions between the parietal and visceral layers of pleura. Only after this has happened (allowing an interval of 10-14 days) is it safe to open the abscess, and this is usually done with the cautery or diathermy knife. The cavity is then drained, and is later allowed to heal from the bottom.

One's constant fear in treating a lung abscess is that the pleura will become infected, for this is almost invariably fatal. It happened in the case above recorded, although the adhesions at the operation site were firm and strong.

TUBERCULOSIS OF THE LUNG

It is not possible for me to make any reference to the medical aspects of this disease, for that is a subject about which whole books are written, but I should like to give you an outline of the usefulness of surgery in this condition.

Surgery is indicated in those cases of tuberculosis, limited to one lung, in which for one reason or another artificial pneumothorax is unsuitable or has failed.

Phrenic evulsion is of use in some cases. The nerve is exposed in the neck (under local anæsthesia), clamped in artery forceps, divided, and the distal end is twisted out. The risk of hæmorrhage, from vessels accompanying the nerve, does not appear to be great. In view of the fact that tuberculous lesions are usually situated near the apex of the lung, paralysis of one half of the diaphragm, with consequent raising, will be productive of only a minor degree of collapse.

Thoracoplasty in one form or another is more satisfactory. The operation is performed under local anæsthesia, the technique of which is as follows: A needle is passed down to a rib and 3 c.c. of 2 per cent. novocain injected. A second needle is passed into the space above and 2½ c.c. injected. A third needle is passed into the space below and 2½ c.c. injected. The whole process is repeated over the next rib, with the result that each space receives 5 c.c. of 2 per cent. solution. The whole or part of the chest may be anæsthetised in this way.

The most commonly performed operation is one in which portions of ribs (increasing in size from above downwards) are excised extrapleurally from the posterior end of the first ten. The result is a falling in of the remaining portions of the ribs, downwards and medially, with consequent collapse of the underlying lung.

In Scandinavia at the moment this operation is being superseded by one in which the main object is to free the apex by dividing extrapleural adhesions, thus allowing for additional collapse from above downward (apikolyseplastik). The whole of the first and second ribs and diminishing quantities of lower ribs are removed.

Case 6 illustrates this operation.

Fig. 10 (Slide 71).—G. R. T., 26-10-33.

CASE VI

G. R. T., male, *æt.* 25.

1-10-33.—Admitted; history of a cough for six weeks. For eight months has not felt so well as usual. Occasional attacks of palpitation; sputum. Losing weight.

3-11-33.—X-ray showed extensive tuberculosis of right upper lobe (Fig. 10). Artificial pneumothorax attempted on right side, but complete collapse of lung not possible, owing to adhesions at apex (Fig. 11). Tubercle bacilli in sputum.

31-1-34.—Under local anæsthesia—gas and oxygen—the whole of the 1st rib, the whole of the 2nd rib, 3½ inches of the 3rd and 4th ribs were removed, and adhesions divided in relation to apex of lung.

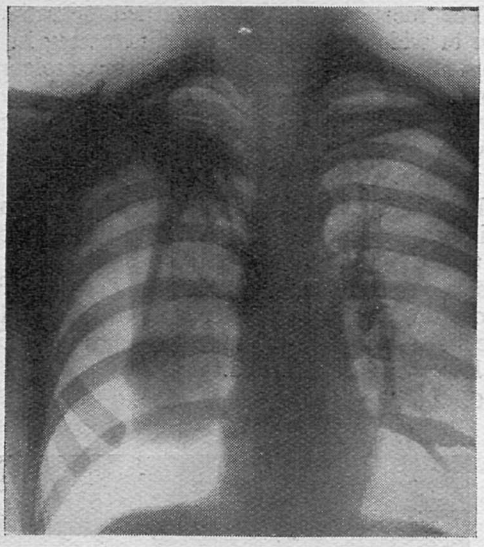


Fig. 11 (Slide 72).—G. R. T., 8-1-34.

X-ray following operation showed the apical region of the lung to be almost completely collapsed (Fig. 12).

The patient's general condition rapidly improved, cough and sputum being less. Tubercle bacilli not found in sputum.

Patient was discharged on 10th May, 1934, with no cough and increase in weight. Sent to sanatorium.

Sept., 1934.—Discharged from sanatorium as cured.

Extrapleural pneumolysis is another operation occasionally performed. In this operation access to the extrapleural region is obtained through an intercostal space, and the parietal pleura is stripped off the chest wall. The lung and pleura sink together. The space remaining is filled with paraffin, fat, mammary tissue or muscle. Good results are reported, but the operation has certain difficulties and dangers, and its application would appear to be limited.

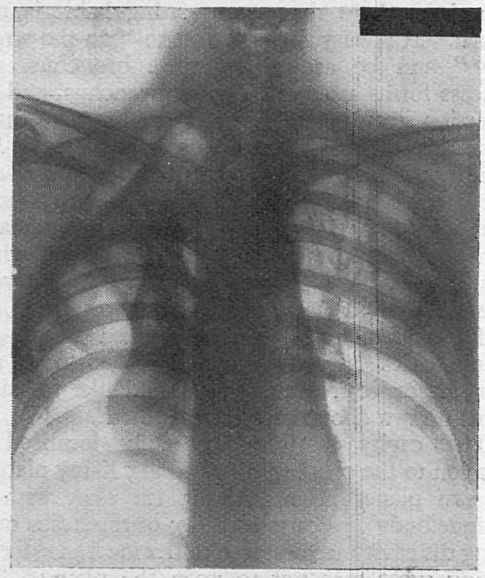


Fig. 12 (Slide 74).—G. R. T., 19-2-34.

I have in these two lectures been able merely to give you an outline of certain applications of thoracic surgery, but I hope I have indicated some of its possibilities.

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The Death Incidence of Tuberculous Children at Guy's Hospital

By H. G. Close, Esq., M.D.

THIS short note has been evolved from a study of 757 cases of tuberculosis in children under the age of ten years who died in Guy's Hospital during the 30-year period 1904-1933 inclusive.

It was possible to obtain the details of each case (the age, sex, date of death and form of tuberculosis responsible for death) from the post-mortem diagnosis books (with the exception of that of the year 1917, which is not available), as a record of almost every death in the hospital is made in these books.

Approximately 98 per cent. of the 757 cases died from either miliary tuberculosis or tuberculous meningitis, so that the death incidence will also be a measure, to some extent, of the admission incidence of these fatal forms of tuberculosis in children.

The cases have been analysed from two points of view—their incidence with (*a*) the years and (*b*) the seasons.

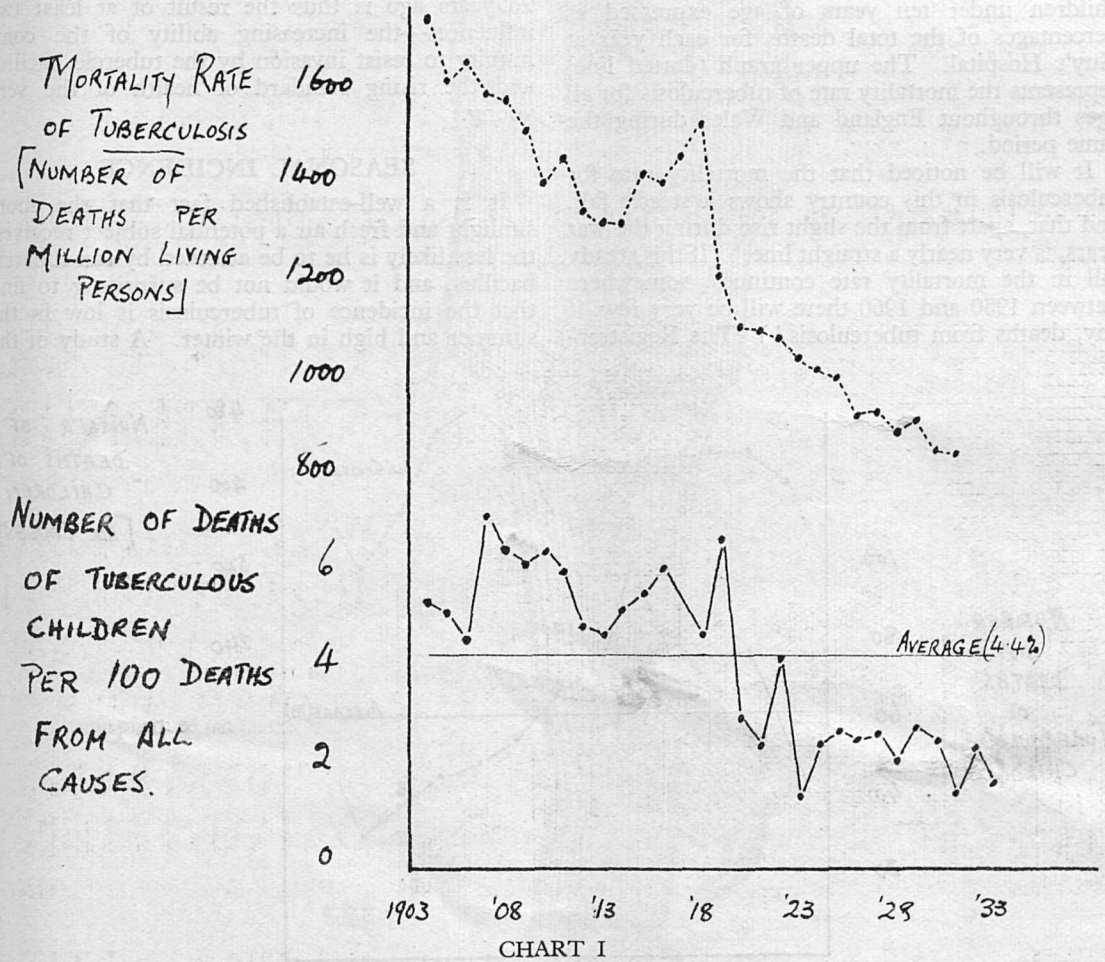


CHART I

YEARLY INCIDENCE

Upper Graph.—Mortality rate of tuberculosis at all ages (England and Wales).
Lower Graph.—Number of deaths of tuberculous children per 100 deaths from all causes and at all ages at Guy's Hospital.

YEARLY INCIDENCE

The 757 cases of tuberculosis in children represent 4.4 per cent. of the 17,272 post-mortem examinations made during the past 30 years (1917 excluded). If the figures for the first and third ten years of the period under review are compared, it will be found that the average number a year of tuberculous children who died in the first period was much higher (39) and in the third period much lower (13) than the average for the whole period (26). The change-over from the higher to the lower figures occurred fairly abruptly just after the war, and coincides more or less with a similar fall in the mortality rate of tuberculosis throughout the country.

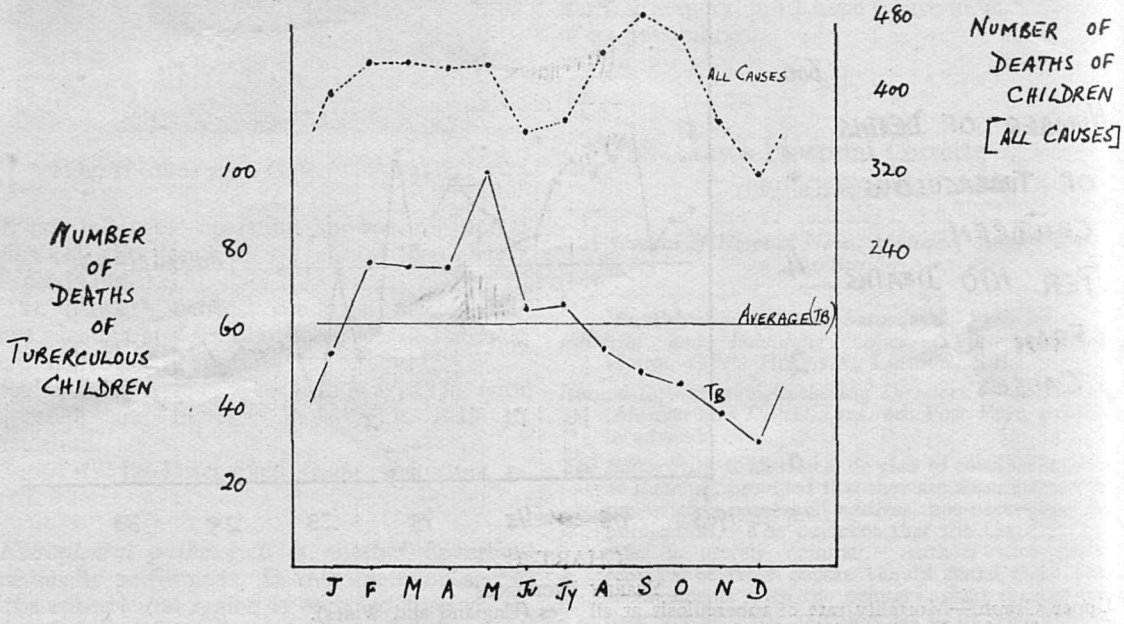
The above points are illustrated graphically in Chart I. The lower of the two graphs shows the yearly incidence of deaths from tuberculosis in children under ten years of age expressed as percentages of the total deaths for each year at Guy's Hospital. The upper graph (dotted line) represents the mortality rate of tuberculosis for all ages throughout England and Wales during the same period.

It will be noticed that the mortality rate for tuberculosis in this country shows a steady fall, and that, apart from the slight rise during the war years, is very nearly a straight line. (If this steady fall in the mortality rate continues, somewhere between 1950 and 1960 there will be very few, if any, deaths from tuberculosis!) The Registrar-General's Reports also show that the average mortality rate for tuberculosis in the ten-year period (1911-1920) was 60 per cent. less than the corresponding average rate for the ten-year period 1851-1860, and that the greatest reduction took place in the age group 0-5 years. The mortality rate of this age group for *all* diseases has also shown a marked decline in recent years, and is now only half what it was 30 years ago. The figures from the post-mortem room here at Guy's Hospital show a similar decrease in the number of deaths in children. For example, in the years 1904-1913 the number of post-mortem examinations of children under ten years of age was 36 per cent. of the total number; in 1924-1933 the proportion had fallen to 18 per cent.

The fewer number of deaths of tuberculous children at Guy's Hospital compared with, say, 25 years ago is thus the result of at least two influences—the increasing ability of the community to resist invasion by the tubercle bacillus and the rising standard of health of the very young.

SEASONAL INCIDENCE

It is a well-established fact that the more sunlight and fresh air a potential subject receives, the less likely is he to be attacked by the tubercle bacillus, and it would not be surprising to find that the incidence of tuberculosis is low in the summer and high in the winter. A study of the



Months of the year.

CHART II

SEASONAL INCIDENCE OF DEATHS OF CHILDREN

seasonal incidence of the above group of 757 cases of tuberculous children tends to confirm this suggested relationship of the incidence to the seasons. As the graph in Chart II shows, the number of deaths is highest in the Spring (May) and lowest in the Autumn (December). But if it is remembered that patients suffering from miliary tuberculosis are ill for about one to two months, it would appear that children are most susceptible to fatal forms of tuberculosis at the end of the winter and least susceptible at the end of the summer.

For comparison, the seasonal incidence of children under ten years of age dying from all causes is also shown in Chart II (graph of dotted line). As will be seen, the peak of the curve of the "all causes" group occurs in September (because of the large proportion of deaths from gastro-intestinal diseases), and the graph shows little correspondence with the graph of the seasonal incidence of deaths from tuberculosis.

SUMMARY

At Guy's Hospital :—

1. There are now fewer deaths from tuberculosis in children than in pre-war years (1904-1913).

2. The greatest number of deaths of tuberculous children occurs in the Spring.

Notes on Two Cases of Anthrax from "Clinical"

By A. M. G. Campbell, Esq., B.M., B.Ch.

IN view of the fact that Guy's has the reputation of admitting more cases of anthrax than any other of the London hospitals, a brief history of two cases recently treated in John Ward may be of interest. A review of the methods of treatment employed in the hospital since the war has been added, to find if it is possible to determine which has achieved the most satisfactory results.

CASE 1.—T. S., dock labourer, of Bermondsey, age 25. Admitted 2nd July, 1934. Complained of swelling of the right arm, on which there was a small papule.

Family history and previous health.—Nothing to note.

History of present condition.—On the 29th June patient noticed a small pimple on the upper part of the right forearm. Beyond being irritable there was little to note. On June 30th there was considerable swelling, but not such as to cause the patient any anxiety. On July 2nd the condition was such as to make him feel that he should have advice. By this time the arm had become greatly swelled, was red, hot, and very painful. (The pimple had developed into a typical eschar, with surrounding vesicles becoming pustular.) On July 2nd he came to hospital. From the signs and symptoms present, and from the history he gave of having recently been handling hides, a diagnosis of anthrax was made, and the patient admitted into John Ward under Mr. Marshall.

Condition on admission.—Temperature was 101° F., pulse 104, respirations 22 per minute. There were acute constitutional symptoms, he complained of feeling ill, had headache and backache. The whole right arm was very swollen; it did not pit on pressure. There were no glands palpable. The local lesion consisted of a central black eschar about two inches in diameter, surrounded by a series of vesicles containing clear fluid; the surrounding skin was very discoloured. The spleen was not palpable. The urine was normal.

Fluid taken from the vesicles showed anthrax bacilli. It is worthy of note that swabs taken from the central eschar, by Mr. Colbeck, failed to give any growth of bacilli, which points to the fact that it is always safer to examine the fluid from the vesicles. A blood count showed the leucocytes to be 17,000.

Immediately on admission the patient was given 10 c.c. of Sclavo's anti-anthrax serum intravenously by Mr. Fowler; this was followed by .5 gm. novarsenobillon. He was put on a light diet with as much glucose as possible.

On July 3rd his condition was little changed. Temperature had risen to 103° F., pulse was 104, respirations still 22 per minute. The limb was still very œdematous. Patient was given .45 gm. novarsenobillon. From the first the arm locally was treated with a dry dressing and kept at rest by splinting. The report of the blood cultures from specimens taken on admission was negative.

On July 4th the temperature was 102° F., pulse 102. The scab was smaller. A further .45 gm. novarsenobillon was given.

July 5th.—Temperature and pulse began to drop, patient felt better. A further .6 gm. novarsenobillon, covered by the intravenous injection of .6 gm. ametox at the same time. Sodium thiosulphate was given by the mouth.

The patient made rapid progress. He was discharged, on the 20th July, to a convalescent home. He then had only slight œdema and a very small lesion. Seen on the 14th August the

œdema had entirely subsided, and there was only a scar no larger than a threepenny piece.

CASE 2.—L. D., age 52, a clerk in H.M. dockyard at Gibraltar. Admitted to hospital on July 20th, 1934. Complained of swelling of the right side of the face and neck, with a sore above the angle of the right jaw.

Family history and previous health.—Nothing to note.

On admission, the patient gave the following history. On July 8th, just before sailing for home leave, he found he had forgotten to bring his shaving-brush. He went to a bazaar and purchased a brush for sixpence. He landed in England on July 15th in his usual health. Late in the evening of Wednesday, July 18th, he began to feel unwell. Before going to bed he noticed a small pimple on his right cheek. During the early hours of July 19th he felt so ill that a doctor was called, who diagnosed the condition as anthrax and sent him to a large London hospital. Here he was told that the only treatment was immediate excision. As he refused to undergo any surgical operation he was transferred to the Finchley and Wood Green Isolation Hospital. He was there given 30 c.c. injections of Sclavo's serum intramuscularly. By the 20th July his face had become so œdematous and his general condition so much more grave that it was decided to remove him to Guy's. In the meantime anthrax bacilli had been found in swabs from the lesion. An examination of the shaving-brush had proved the presence of anthrax spores and bacilli.

Condition on admission into John Ward on July 20th under Dr. Marshall.—There was extensive œdema of the right side of the face and neck. The right eye was closed, the conjunctive was found on examination to be œdematous and inflamed. A pustule was situated just above the angle of the right mandible; it was $1\frac{1}{2}$ inches in diameter and was surrounded by a discoloured and inflamed area in which there were several vesicles containing a hæmorrhagic fluid. Examination of the fluid from the vesicles revealed the presence of anthrax bacilli. There was considerable enlargement of both submaxillary and cervical lymphatic glands on both sides. Patient was totally unable to open his right eye. On admission, temperature was 99.6° F., pulse 90, respirations 20. There was .5 per cent. of albumen in his urine.

Progress and treatment.—On admission he was given .6 gm. novarsenobillon and 45 c.c. Sclavo's serum intravenously. The following day the temperature had risen to 101° F.; pulse remained at 90 and the respirations at 20. He was given .9 gm. novarsenobillon and a further 65 c.c. of serum. From this point recovery was rapid, except for a serum rash. On the third day after admission the right eye was almost normal and patient could open it. A blood culture proved negative. The patient's progress was remarkably rapid, and he was discharged on the 16th of August, when the lesion was half its original size. It is unfortunate that the photograph was taken only after the œdema had subsided.

Reviewing these two cases, both showed remarkably rapid recovery. For all practical purposes Case 1 was treated only with novarsenobillon; the second with Sclavo's serum in addition. In both cases the blood cultures were negative. The mode of infection differed in the two cases—in the first infection being from a hide, in the second from a manufactured article, a shaving brush. In this connection it is interesting to note that, on the report of this case, the Medical Officer of Health for Gibraltar prohibited the sale of brushes from this Japanese source, while the *Evening Standard* of July 19th painted a lurid picture of the dangers of buying shaving-brushes of Japanese manufacture.

In regard to treatment of anthrax, the most interesting point is that anthrax has passed from the hands of the surgeons to the hands of the physicians. Except in early cases where the lesion is small and very localised, surgical treatment is now practically regarded as being contra-indicated owing to the risk of opening up a raw

area and so spreading infection. Modern medical treatment has been found to give most satisfactory results.

As to the relative merits of sera and novarsenobillon in the treatment of anthrax, there is a very considerable difference of opinion. Experience of cases treated with organic arsenic is still too limited to allow of any definite opinion. Spencer, writing in the *Journal of Tropical Diseases*, states that he has had, among the South African natives, exceedingly satisfactory results from the use of organic arsenic alone, the usual dose being, on the first day, .6 gm., the second day .6 gm. or .9 gm. Spencer also states that he has had success in the cases of children from intramuscular injections of sodium cacodylate gr. 2.

Eurick, of Bradford, records excellent results from the combined use of sera and arsenic. He gives doses novarsenobillon similar to the doses given in the cases just recorded, combined with 80 c.c. of Sclavo's serum on the first day, and 60 c.c. daily until the condition materially improved. It would seem that this is, at present, the most satisfactory method of treatment. In estimating the particular value of any treatment one must keep the fact that 80 per cent. of anthrax cases recover whatever treatment is given, and a certain number recover without any treatment at all. In considering treatment, the most important fact to emphasise is the small number of cases in which surgical treatment is indicated. Eurick stresses three important facts in his paper :—

1. The prospect of recovery depends on the site of the lesion. Lesions of the face are much more serious than lesions of the hand or arm.

2. He further points out the great importance of rest for the affected region. In eleven cases with a lesion on the wrist seven died ; in eleven cases with a lesion on the arm none died. Eurick regards this as a proof that mobility of the affected area increases the gravity.

3. Probably the most unfavourable sign is a positive blood culture. In such cases—which, fortunately, are the exception—the outlook is always very grave.

From the figures given of cases of cutaneous anthrax treated at Guy's from 1921-1933 it is evident that the cutaneous form, as opposed to the pulmonary variety, is not such a grave condition as it is held to be by the lay public. The following figures show a remarkably low mortality rate :—

These figures speak for themselves, but the change from surgical to medical treatment in this hospital since 1926 is very noteworthy ; unfortu-

RESULTS OF ANTHRAX CASES TREATED AT GUY'S FROM 1921 TO 1933

Year	*Number of Cases*	*Deaths*	*Recovered*	*Treated with Excision Alone*	*Excision and Serum*	*Serum Alone*	*Serum and N.A.B.*	*N.A.B. Alone*
1921	3	—	3	—	3	—	—	—
1922	8	1	7	—	8	—	—	—
1923	5	1	4	1	4	—	—	—
1924	5	—	5	—	5	—	—	—
1925	6	1	5	—	6	—	—	—
1926	4	—	4	1	—	3	—	—
1927	—	—	—	—	—	—	—	—
1928	1	1*	—	—	—	1	—	—
1929	2	—	2	—	—	—	2	—
1930	—	—	—	—	—	—	—	—
1931	—	—	—	—	—	—	—	—
1932	—	—	—	—	—	—	—	—
1933	1	—	1	—	—	1	—	—
1934 (to date)	3	1*	2	—	—	—	1	2 (1 died)
Total	38	5	33	2	26	5	3	2

* Blood culture positive.

nately, however, these figures do not help very much in assessing the relative merits of treatment.

In conclusion, I have to thank Dr. Marshall for his advice and for permission to write up these two cases.

REFERENCES

Eurick.—*Lancet*, July, 1931.
Spencer.—*Journal of Tropical Medicine and Hygiene*, January, 1934.
James.—*Guy's Hospital Gazette*, January, 1934.

Impressions of Leningrad and Moscow during the Summer Vacation

By "E.D."

IT is not difficult to go from Guy's Hospital to Russia. All you have to do is to take a bus to Bush House, have a talk with Intourist (the Soviet State touring agency), leave them your passport and wait for a visa. Ten days later, if that comes on a Saturday, you can pack a case and step down to Hay's Wharf for embarkation. I did all these things, and found myself one day at the beginning of August passing under Tower Bridge in the M.S. *Sibir*, bound for Leningrad, 4½ days' distant.

Nothing is so surprising nowadays as the diversity of opinion upon the subject of Russia. But I do not mean to divulge mine, at least not in print. I went to Russia to see, among other things, some medical institutions, and I found them so interesting that I am tempted to write about them.

Needless to say, the subject of Medicine in general under the Soviets is one for which you must consult books, not a three-week tripper. Yet it is surprising what a group of earnest and determined folk, bent on seeing everything possible of medical interest, can achieve in so short a space of time. It was with such a group that I travelled, and a highly diverting experience it was.

A VISIT TO DR. PAVLOV'S LABORATORY

Pavlov is now one of the most honoured and privileged men in the whole U.S.S.R. The eminent scientist has no great liking for the Bolsheviks, but the Bolsheviks certainly have a liking for him. They have given him a country estate—even a church !—of his own, and have equipped his beautiful laboratories in the "Reflexological Institute" as well as he could wish.

It is not often that foreign visitors are permitted to see this place. We were fortunate, however, in having as a fellow passenger from England Professor Rosenthal, who works at this institute. He very kindly consented to show us the most important part of the building and also its most important inhabitants—the dogs.

The institute is situated in a pleasant park on the banks of the Neva. It is approached, with many agonising jolts and other forms of rude concussion, along a roughly cobbled by-road. We arrived at about eleven in the morning. The professor was there to greet us, and then and there we were shown the very room which has become the scene of routine observation deriving from Pavlov's classic experiments. The chamber itself has thick, heavily padded walls and a door like that of a safe. Within it is yet another concrete-walled compartment with an even more effectively insulated appearance. The latter has no window or outlet whatever. The condition of the air inside it, however, can be regulated and controlled. There is a periscope let into the wall from without, and the observer is provided with a great variety of gadgets: electric metronomes, lights, bells and what-not, many of which constitute stimuli with which to "condition" his canine subject.

Some of the more voluble members of our party were thrust expostulating into this inner chamber and the door closed upon them. On subsequent release they were able to affirm that no external stimuli had reached them during their captivity.

"It is not the apparatus which is so difficult to obtain and so essential to the success of our work," said the professor. "It is rather the faculty of true and accurate observation. This requires years of careful training and experience, for the slightest slip in conditioning procedures can ruin weeks of methodical experimentation, and the smallest lapse in the purely objective attitude in recording observations may nullify the value of results."

Various simple experiments were performed for our benefit. We were introduced to a semi-decerebrate dog who seemed perfectly happy provided his food was tactfully presented to him on the correct side. His salivary fistula was brought into action, and yielded such a copious flow of saliva as one would not have thought possible. The food appeared adequate, but it was no Gargantuan feast (as that lively parotid appeared to anticipate).

The initial stimulus was a flash of light, and after a measured period of time a lever was pulled and a tin plate swung round, presenting the expected repast.

"The 'reinforcement,'" announced the professor. "Do not forget the 'reinforcement'; it is most important!"

Such, in the main, were my impressions of the Reflexological Institute. [*To be continued.*

The Debating Society

A GENERAL Meeting of the Debating Society will be held on Thursday, October 4th, at 5 p.m., in Classroom I. The agenda will consist of the election of an Executive Committee for the coming season and the consideration of a programme of debates.

The secretaries are particularly anxious that every member of the Clubs' Union with an interest in the Society will immediately submit suggestions for motions, and that volunteers will be forthcoming for opening speeches.

With the exception of Religion, any subject whatever is open to discussion but we urge that, before our critics settle down to their annual pastime of criticising the Society for the lack of interest in its meetings, they might for once seek the obvious remedy themselves.

W. N. M. & E. D.,
Hon. Secretaries.

Some Reflections on the Dental Cloak-Room

THE papers here, the papers there,
The papers all around ;
Conservative and Socialist,
At one—upon the ground.

The basins, old as Egypt's tomb,
Have never water seen ;
A running tap would surely crack
Those ancient bowls, I ween.

In any case, there are no towels,
And even if there were,
There is no soap, so there you are—
Just wash youself with air.

The W.C.'s have lost their bolts,
And all the cisterns leak ;
The lights are quite inadequate,
The chains both groan and creak.

Oh, Sirs ! the cloak-room of this school
Is like a public bar,
Save that they do not serve drinks here,
And the bar is cleaner far !

SPYN.

Correspondence

G.P.'s and Hospital Experience

To the Editor of the GAZETTE

SIR,—I have been " at it " for 40 years. Sir George Newman's report for last year shows conclusively that the call on the G.P. grows less every year as the public health improves beyond everything that, years ago, we believed possible. The doctor must be better educated or will cease to exist. With a death rate of 9.1 and a birth rate of 10.2, not a death from whooping cough, measles nor diarrhœa in a population of 43,000, what can we hope to find to employ our energies ? The sick rate is obviously measured by the mortality rate.

Three years ago a great authority in the medical world wrote to me that every doctor before licensed to practise should be obliged to show that he had held appointments in a recognised hospital for a year. Such a regulation would greatly reduce the total whilst vastly improving the capacity of the race. The public are tired of the man who declares after he has made fees steep, that " the case is a difficult one," and that he must have a specialist. Sickness is thus made terribly expensive. Such things as here follow should be impossible, and unless they are suppressed in these modern days the G.P. will succumb.

A woman of 20 with rectal cancer was treated for five months for piles ; I saw the prescription. She was married, and yet had not been examined. The disease had spread too far for operation.

A virgin, *æt.* 24, with dire dysmenorrhœa, was examined per rectum by a lady doctor, and told that her trouble was constipation ! Her hymen was so tight as to be nearly imperforate. Breaking down with a finger cured her.

A man, *æt.* 54, was told to go to work as he was a neurasthenic—obviously a case of paralysis agitans.

A lad of 14 injured his arm. There was no displacement. He wore his arm in a sling for a fortnight. Another doctor " got hold of him," and found a greenstick fracture by X-ray. Insisted on hospital massage, etc. ; cost £40 for nothing. He was either a fool or a knave.

A lady, nearly 70, was bumped in a motor car and hurt her back. The doctor declared that there was slight dislocation of spine and massaged her every day! What would Hilton have said to such direful treatment?

There is a modern craze for complete alignment of fractures, a noble aspiration that often leads to long delay in useful function. A young man fell at his work and suffered a comminuted fracture of the lower third of his right humerus. Three months—much of it—in horizontal splint. Result, splendid position; arm stiff and useless.

My cousin, *æt.* 70, had a bad Colles' fracture a few years ago. It was perfectly replaced under anæsthetic, then set up in a plaster splint for three weeks. When taken down, bad displacement and the arm has been " a very poor thing " since.

A woman, *æt.* 50, slipped in the kitchen and fractured her tibia and fibula above the ankle joint. She required tenotomy of the tendo-achilles to correct the deformity. Bungling occurred in hospital; a radical operation to cure deformity was performed. The result was that the blood supply failed to the foot, which had to be amputated.

We all make mistakes. I have had my share, but not from want of examination or taking a history. Modern conditions call for better doctors, and there is but one means of acquiring them—more hospital experience; a year as a post-graduate at hospitals or infirmaries, but the best place of all is Out-Patients. Nobody should be examined who cannot show that he has attended " Outers " for two hours on four days each week for at least two years. By such means his eyes, his ears, his senses will be attuned to changes that otherwise will for ever remain beyond his recognition.

Yours, etc.,
VAUGHAN PENDRED.

A Native Letter

To the Editor of the GAZETTE

SIR,—Native letter writers often provide considerable amusement in their handling of English. The following letter, written by a native to the Magistrate at Pietersburg, is undoubtedly one of the best of its kind. The letter is as follows :—

" Most Honoured Sir,—Understanding that there are several hands wanted in your honoured Department I beg to offer my hand as an adjustment.

" I appeared for the Matriculation Exam., but failed the reason for which I shall describe to begin with. My writing was illegible, this due to climatic reasons, for having come to cold from a warm climate found my fingers stiff and very disobedient to my wishes.

" Further, I have received a great shock to my mental system in the shape of the death of my only fond brother. Besides, most honoured Sir, I beg to state that I am in most uncomfortable circumstances being the sole support of my brother's seven issues, consisting of three adults and four adultresses, the latter being the bane of my existence owing to having to support my own two wives as well as their issues, of which by God's misfortune the feminine gender predominates.

" If these humble lines meet with your benign kindness and favourable of mind I, the poor menial, shall pray for the long life and prosperity of yourself and your honoured posthumous olive branches.

" Your most obedient Servant,"

Yours, etc.,
"X.Y.Z."

Reviews

Diseases of Women. By Ten Teachers. Edited by Sir COMYNS BERKELEY, J. S. FAIRBAIRN and CLIFFORD WHITE. Published by Messrs. Edward Arnold & Co., Ltd., London. Pp. 568. *Price* 18*s.* 6*d.*

THIS is the fifth edition of the book, whose authors include Comyns Berkeley, Victor Bonney and Frank Cook. Considered as a text-book it may at once be said the production is admirable; the print is good, with a generous arrangement of head-lines, the illustrations numerous and to the point and the subject matter plainly put and sufficiently readable to compensate for its otherwise excessive length. The chapter dealing with that chameleon section of physiology, endocrine functions, has been re-written and brought up to date, where we feel it cannot long remain. It is one of the few comprehensible and —to date—accurate accounts of ovarian and uterine function to be found in current books.

The book has every recommendation to those reading for examination, and an assurance that its

views, accurately expounded, will be palatable to at least one member of nearly every examining board in England.

Those in search of light on gynæcological problems will find its practical tone a refreshing change from the academic atmosphere which permeates so many books of its kind.

Prevention in Medicine. Published by the *Lancet*, Ltd., London. Post-Graduate Series, Vol. II. *Price* 10*s.* 6*d.*

THE book is a series of 25 lectures delivered at King's College Medical School and already published serially in the *Lancet*. Its praiseworthy object is to forward the view amongst the medical profession that the role of the doctor is as much to prevent his patients incurring disease as it is to treat established illness. Prevention is used in the fullest acceptation of the word, and contributions range from "How to Live the Life of Modern Times" to "The Prevention of Venereal Disease"; this last essay, by Colonel Harrison, of St. Thomas's, is a particularly clear exposition of the part of prevention in this branch of medicine.

Much in the other articles is of great general interest, though of little practical value to the student. Indeed its appeal is sufficiently wide for the book to find a considerable public outside the medical profession.

Medical Bacteriology. By L. B. H. WHITBY. Published by Messrs. J. & A. Churchill, Ltd. Pp. 338. *Price* 10*s.* 6*d.*

THIS excellent little book has everything to recommend it to the student who is interested in bacteriology only in so far as it affects medicine and surgery. Additions in this, the second edition, include a chapter on bacterial variation in relation to disease; and the sections on filter-passing viruses, and pneumococcal and streptococcal immunisation methods have been revised and enlarged.

Throughout the book the original plan of presenting only the established views in bacteriology has been maintained. Some finer points are there, but in small print, and the elementary reader is adjured not to bother with them.

For the first hundred pages a clear account is given of immunity, serological reactions and standard methods of staining and cultivation. The remaining two hundred pages are given to the bacteriology of special organisms, and include chapters on helminth and protozoal infections. The book is delightfully easy to read, and a pleasant contrast to some of the weightier tomes on the subject that it was once necessary for the medical student to attempt.

Experimental Physiology for Medical Students. By D. T. HARRIS, M.D., D.Sc. Published by Messrs. J. & A., Churchill, Ltd. *Price* 12*s.* 6*d.*

THIS is the second edition of a well-known and very useful book on practical physiology. All the classical experiments are described, some for the student to perform himself and some for practical demonstration before a class. The book is intended for use of students under the supervision of a demonstrator or lecturer, so that very few theoretical deductions are made in the text. The book is based on the course arranged for senior and junior students at University College, London, but can be recommended especially to senior students and demonstrators in other schools. In this edition there is an entirely new chapter on "Body Temperature," and many new experiments are described in the other chapters to bring the book up to date.

Experimental Physiology. By Sir E. SHARPEY-SCHAFER, F.R.S. Revised by the Author with the co-operation of W. A. BAIN, B.Sc., Ph.D. Published by Messrs. Longmans, Green & Co., Ltd., London, 1934. Fifth Edition. Pp. 168, 24 Figures. *Price* 6*s.*

SINCE this book was first published in 1912 it has reached this year its fifth edition—a sure indication of its popularity with students and with those who may be hard put to it to devise experiments for their instruction and, possibly, their entertainment.

It is mainly intended for medical students, and contains instructions for performing most of the fundamental experiments in physiology, except those of a chemical nature. A certain number will be found suitable for demonstration and others for the use of advanced students only. The medical student would be grateful if the more important experiments for his use were indicated in the text, though in practice he would be told which to perform himself.

The majority of experiments are clearly described in the text, and the diagrams are good, but those of electrical apparatus are complicated and are likely to cause difficulty unless the student has already a sound working knowledge of this kind of apparatus. Directions for the dissections

of muscle-nerve and heart preparations of the frog are excellent. As the majority of experiments actually performed by the student himself are on the frog, it is important he should grasp the fundamental physiological laws as illustrated in these preparations, and he will find a great deal of help in this book. The application of experiment to the theory and practice of physiology is evident throughout.

The printing is clear, and the index complete, and the lot of the student with his "frog-jumps" will be made easier and more interesting if he can apply only a little of the knowledge and instruction contained in this book.

A Synopsis of Regional Anatomy. By T. B. JOHNSON, M.B., Ch.B., Professor of Anatomy, University of London, Guy's Hospital Medical School. Published by Messrs. J. & A. Churchill, Ltd., London, 1934. Third Edition. Pp. 460. 11 Illustrations. *Price* 12*s.* 6*d.*

THE merits of this excellent book need no praising to anyone at Guy's. It has proved invaluable to the many who have little time to spare for revising Anatomy for examination purposes, whether for Second M.B. or the Primary Fellowship.

The new edition is a larger volume than that to which so many have been accustomed, but the number of pages remains approximately the same, while the subject matter has been increased. There is a new section on Osteology, treated in the same way as the rest of the book and intended for revision with the bones at hand. The section on the brain and spinal cord has been re-arranged, and in many places re-written. The revised B.N.A. terminology is used in its English form throughout, and a glossary is included. The author hopes that the student will find it more intelligible and therefore helpful. Anatomical terminology has become so complicated in recent years that it is refreshing to find a book written in terms that can be easily understood and which, in most cases, are self-explanatory. This will be much appreciated by all those who use the book for revision.

The small paragraphs on development following the description of many structures are admirable, as the important points are shown simply and clearly, and Human Embryology is here in a form which can be easily assimilated. This arrangement in the new edition is a definite advantage, and enables the student to remember more easily the points in development of each structure as he revises them.

Diagrams are out of place in a book of this sort, as, of course, it is intended for use when revising the dissected part, but a tribute must be paid to the diagrams of the central nervous system. It is always very difficult for the student of Anatomy to get an adequate conception of the tracts and central connections of the cranial nerves. Together with the text, they will prove of great help when revising the brain. The whole book is compact and well arranged, and may be strongly recommended to those who, like the reviewer, are revising what little they remember of Anatomy.

The Principles and Practice of Neurology. By A. CANNON, M.D., Ph.D., D.P.M., and E. D. T. HAYES, M.D., D.P.M. Published by Messrs. William Heinemann, Ltd. *Price* 25*s.*

THIS book has been written as a companion to "The Principles and Practice of Psychiatry," by the same authors. It is divided into two parts, the first dealing with the clinical examination of the patient and the second describing the various nervous diseases.

The first part has been written by Professor G. H. Monrad-Krohn, M.O. of the University of Oslo, and is unusually clear and easy to read, but, unfortunately, no anatomical explanation is given for the various clinical tests described. For instance, in describing how to examine the sensory system it is a pity the author has not prefaced his remarks with a brief summary of the different nerve tracts carrying sensations to the cerebrum and cerebellum. It is a pity, too, that in this section of the book there is not included a chapter describing the normal and common pathological findings in the cerebro-spinal fluid, with, perhaps, a description of the variations in the Lange curves.

The second part describes the clinical findings in the principal nervous diseases, and, like the first, is well written and easy to read. In describing a disease, the plan adopted is to begin with the ætiology and then to describe the pathology, signs and symptoms, differential diagnosis, prognosis, and finally to give a brief summary of the treatment. The differential diagnosis is usually brief and to the point, and not as confusing as it is in the average text-book.

The book as a whole is profusely illustrated, but it would not be true to say that the illustrations have all been chosen with discretion, and, in fact, some of them are quite useless. It is a book which will probably be enjoyed by many readers on account of the way it is written, but it will not satisfy the beginner, as it pre-supposes a certain amount of knowledge on the part of the reader, and will not satisfy the advanced student because it does not contain a great deal more detail than many of the well-known larger text-books on medicine.

Nursing News

AT the Dulwich Hospital Swimming Gala, held at the Dulwich Public Baths on Thursday, September 20th, the nurses were successful in winning the Inter-Hospitals' Team Race, and become the first holders of the Dulwich Hospital Challenge Shield presented by the Mayor of Camberwell.

The team members were: Nurses Boxall, I. Davies, Parks, Rains.

Hospital Information, etc.

Notices

GUY'S HOSPITAL MEDICAL SCHOOL

The School Prizes for the year 1933-34 will be presented by the Rt. Hon. Lord Nuffield, D.C.L., on Wednesday, October 3rd, at 2.45 p.m. Immediately following the Presentation of Prizes, the Opening Address for the Session 1934-35 will be given by Mr. C. H. Fagge, M.S., F.R.C.S., the subject of whose address will be "Dare quam accipere." The ceremony will be held in the Physiology Lecture Theatre.

No tickets of admission are necessary for the Distribution of Prizes.

THE SIR ALFRED FRIPP MEMORIAL FELLOWSHIP IN CHILD PSYCHOLOGY

Applications are invited for the above Fellowship, which is of the value of £300 per annum and is tenable for a period of two years.

The Fellowship has been established with the object of promoting the advancement of knowledge and research in psychology, more particularly through the study of children in health and/or in disease. Each candidate must submit with his or her application a definite scheme of advanced study or research work to be carried out during the tenure of the Fellowship, together with particulars of his, or her, previous career. The investigations undertaken by the Fellow shall be carried out in the Children's Department of Guy's Hospital.

Men and women are eligible for the Fellowship. Candidates must be unmarried, of not more than thirty years of age, and must possess a registrable qualification to practise medicine. Canvassing will be regarded as a disqualification.

Further particulars as to the regulations governing the Fellowship may be obtained from the Dean, Guy's Hospital Medical School, S.E.1, with whom applications (ten copies), together with the names of three referees, should be lodged not later than October 22nd, 1934.

Papers by Guy's Men

F. D. Saner. Aneurysm of the female artery. *Lancet*, 1934, ii, 601.

L. Forman. Exfoliative dermatitis. *Proc. Roy. Soc. Med.*, 1934, xxvii, 1460; Sect. Demat., 72.

Births

PURKIS.—On September 6th, 1934, at Wickham Road, Beckenham, the wife of Kenneth Purkis, F.R.C.S.—a daughter.

CALHAEM.—On July 26th, 1934, at the Maternity Hospital, Singapore, to Jean (née Turnbull), wife of T. M. Calhaem—a son.

HOOKER.—On September 21st, 1934, at 67, Brunswick Place, Hove, to Constance Claire (née Wright), wife of Reginald J. Hooker, M.R.C.P., L.D.S., M.R.C.S.—a son.

WILLS.—On September 7th, 1934, at 20, Devonshire Place, W.1, to Margaret (née Townsend), wife of Dr. Lancelot Wills—a daughter.

Appointments

Dr. F. A. Knott takes up his appointment as Bacteriologist to the Hospital and Director of the Bacteriological Department on October 1st, 1934.

Dr. C. P. Symonds, Consulting Neurologist, R.A.F.

Marriage

COHEN—RIECK.—On June 19th, 1934, at Cape Town, South Africa, Sol. M. Cohen, M.A., F.R.C.S., to Cecile Rieck, of Seapoint, South Africa.

FERNIHOUGH—ORAM.—On June 15th 1934, at St. Paul's Church, Ambala, India, by the Rev. Canon T. Lister, M.A., Squadron-Leader Frank Fernihough, M.C., Royal Air Force, to Kathleen Carrie Oram, Q.A.I.M.N.S.

EDS. {D. P. K. P. W. C.

GUY'S HOSPITAL GAZETTE

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PASSIM

WE are following the usual custom at this time of the year in dedicating this number of the *Gazette* to those who are just starting their work here at Guy's. In past years members of the Staff have contributed by writing addresses to those entering the different departments of the Hospital. These have been omitted this year and in their place we publish Mr. Fagge's address, " Dare Quam Accipere."

No one is better qualified than Mr. Fagge, whose life and work has for so long centred round the Hospital in all its spheres, to give advice on the conduct of one's life here. In his address he points out how important it is for students to widen their outlook by not only entering as fully as possible into all phases of the Hospital life, but also to take advantage of every opportunity to read widely and to travel. It is often said that so much of the medical man's time is occupied in reading technical journals that the cultural side of his education is neglected, and he is correspondingly handicapped in his dealing with patients as opposed to cases. It so often happens that in the treatment of a patient a knowledge of his economic and social outlook play as big a part as a knowledge of the pathological condition existing. We advise every student to join the Clubs' Union, which entails a very moderate annual subscription, and entitles him to membership of all the constituent clubs, a summary of whose activities will be found in the following pages.

In addition to these clubs there is the O.T.C., an account of whose activities we have been unable to include in this number.

There will be several other questions which will harass the student on his arrival—digs and books; as regards the former, everybody must make his own choice, depending on his inclinations. The Medical School Office keeps a list of suitable rooms which is worth consulting. To live at Honor Oak Park has the advantage of being near the sports ground and within easy reach of the Hospital by train. Avoid the Borough and the College; both are unhealthy, and to live in either is to court disaster in the shape of disease in one form or another. One sees enough of the College during House jobs.

To give advice on books is one of the most difficult things that can be required of one. There will be some who will want their knowledge condensed for rapid revision purposes just prior to the examination. These will find the Synopsis series to their choice. Those with perhaps a more academical turn of mind will want the largest text-books available, and will look forward to hours spent reading under the lamp that burns the midnight oil. Both these do not strike the ideal. We ask everybody to think twice before buying a book, and to consult their teachers first. As for those who are starting work in the wards, we would remind them that the best text-book is that which they make for themselves in their own minds as a result of their contact with cases in the wards. If they have, in addition, one or two standard works for reference, they will not be far wrong.

We believe that there are a hundred and twenty new entries to the Medical School, and we extend

to them all a very hearty welcome. Many of these through family connections already have some knowledge of Guy's, and we congratulate the others on their choice of hospital. With so large an entry list the new regulations which fix a limit to the time a man may spend in passing the early exams. are very necessary to prevent overcrowding during the clinical appointments.

LAST week we were all delighted to welcome Lord Nuffield on the occasion of the laying of the foundation stone of the new private block, "Nuffield House." It is only recently that Lord Nuffield has become associated officially with the Hospital, and in that time his generosity has made possible one of the most important extensions of recent years. While a voluntary hospital must continue to cater mainly for the really poor, it is equally important that there should be facilities for that increasingly large section of the public with moderate means who have hitherto, because of expense, had to forego necessary investigations and even surgical operations.

The need for such private blocks has been recognised for some time, and they have already been built at some of the other London hospitals.

ON October 1st, Professor Eyre, having reached the retiring age, vacated his post as head of the Bacteriological Department. Professor Eyre has been known to many generations of Guy's men, and few will forget his lectures, with their pictorial illustrations of goat and domestic life in Malta. His position in the bacteriological world lent considerable distinction to the Department. In our next number we hope to publish a personal appreciation both of him and his work.

WE wish to remind our readers that the "Ball of the Future" will be held at the Dorchester Hotel on November 13th in aid of the Hospital. Tickets are £2 2*s*. each, inclusive of a champagne supper and running buffet. They can be obtained at the Counting House or from Mrs. Maclean, 7, Park Lane, W.1. Application should be made as soon as possible as the number of tickets is limited.

Obituary

ARTHUR EDWIN SUCKLING

ARTHUR EDWIN SUCKLING was born on 8th December, 1914, and came to Guy's in January, 1933, to work for the Pre-Medical and the full course for the L.D.S. Diploma. He succeeded in passing Part I of the Pre-Medical Examination in December, 1933, and completed the Biology in the following June. He had spent one term in the Mechanics Laboratory, and was very keen on the profession which he had chosen. He was educated at King Edward VI's School, Chelmsford, and was the only son of Mr. and Mrs. E. G. Suckling, of "Sans Souci," Roxwell Road, Chelmsford, Essex. He died on Friday, September 28th, while undergoing an operation for the removal of a molar tooth.

We wish to offer our deepest sympathy to his parents on their loss.

Dare Quam Accipere

Address delivered at Guy's Hospital on 3rd October, 1934, by C. H. Fagge, Esq., M.S., on the occasion of the Opening of the Session and Annual Prize Giving

MR. Treasurer, My Lords, Ladies and Fellow Students of Guy's,—My first duty is to thank the School Council for the privilege of addressing you to-day, but I know that you—and I, too—would enjoy the next half-hour much more if the Dean had been able to persuade Lord Nuffield to speak of his early business life and to reveal to us the secret of his successful career.

Such a course might, I feel sure, have been most profitable for you in your future years of practice, for medical men are notoriously bad men of business, and advice from Lord Nuffield should have been as valuable to you as any other lecture you have heard in this Theatre.

This Address was, in years gone by, in our School—as it is still in most of the Medical Schools

of London—an occasion of welcome to students newly entered upon their medical or dental courses.

I do not suppose that any of my audience are newcomers to Guy's, but I think a fair proportion of you have not advanced very far in your hospital careers, and that none of you have reached that milestone which entitles a man to practise his art upon a human being. So I shall dwell for a few moments upon the opportunities which your immediate future appears to offer—perhaps when you have heard what I have got to say you will think that I have told you to do those things which I have left undone and not to do those things which I have done. I shall scarcely presume to offer you advice which—as Dr. Moxon[1] said with equal aptitude of our Guy's medicines—so well upholds our motto, for everyone loves to give advice and no one cares to take it; and again, I have no wish to preach, for in the first place I have no qualifications for this purpose, and even if I had I would not attempt the task, for nothing that I have seen in this world has led me to believe that those who work all the time and live according to the most rigid rules are in the end the happiest or the most useful of mortals, or, what is more important, that they bring the greatest measure of happiness to others.

For this reason I have always maintained that free participation in games is not incompatible with as much work as can be required of any man throughout his hospital life. It is, perhaps, the fashion for modern writers, whether serious or frivolous, to scoff at games such as cricket and football. Quite apart from their teaching of the principle of playing for the side rather than for one's self (which I admit puts golf low in the scale of games for boys and girls), it seems to me that games provide the easiest, freest method by which one gets to know one's contemporaries; too much stress cannot be placed upon the importance of getting to know others. Success will come to a practitioner of medicine owing rather to his knowledge of men than to his knowledge of medical books. Osler wrote[2]: "Studiousness may be a stumbling-block . . . A bookish man may never succeed . . . His failure is not because he has studied books much, but because he has not studied men more." This may appear unfair, but it is nevertheless true, and one must realise that fairness is not a characteristic of human fortunes.

The days of youth are long enough to allow of the cultivation of hobbies. These are particularly important because the capacity to take part in games is early lost, and middle age to a man without hobbies loses much of its charm, while old age is only made bearable if, after one's contest in the world of work is over, hobbies are at hand to engage one's interest. Of these the greatest help is obtained from literature, and taste in reading is largely a matter of one's mental attitude for the time being, and is fostered or deterred by habit. If one wishes to read a particular book and finds it difficult, it is best to put it aside; later in life one may positively enjoy a book which, ten or twenty years previously, was indigestible. Another book cherished in youth becomes insipid or distasteful in middle age. Yet another is a companion in one's youth, a mental relaxation in the years of professional anxiety, and a comfort through life. An hour of such reading makes one feel a better being—for me, the works of Charles Dickens are supreme in having this effect. I know I cannot enjoy Meredith or Bernard Shaw; to attempt the former bores me, and the latter exasperates me. As I read for pleasure rather than for education, why should I allow what I read to put me in a temper?

I have just finished James Hilton's "Lost Horizon," which, apart from its fascination as a narrative, contains a rare piece of psychological intuition in the suggested effect on Conway of four years' service in the Great War. Before this I was saddened by the temperamental defects which deprived "Curzon"—a man of monumental intellect—of his rightful place among the leaders of the Empire. It is an interesting question whether the physical deformity from which he suffered can be regarded as in any way responsible for his temperamental twist. On the whole, the evidence brought forward in support of this view is, to my thinking, inconclusive. The library book which preceded "Curzon" was Vera Brittain's "Testament of Youth," which is the best analysis I have read of the effect produced by the Great War upon the mind and personality of those whose youth was passed under its shadow. There is no book dealing with the war which I feel compelled to recommend to the young of to-day so much as this, for *you* cannot understand the reaction of the generation which precedes yours to the problems of the present day unless you realise the effect the war had upon it. It was not the same effect as the war had on my generation, and we older people should remember this, so as to understand much of the behaviour of those now in middle age, which otherwise is incomprehensible.

Now I have attempted to give you a personal criticism of the last three books I have read. Even if everyone present had read them I doubt if a single individual would feel as I do about them, so I hesitate to suggest books to other people—for opinions differ on this matter as widely as on any other within the range of human activities.

While on the subject of war books, I must speak of one which has given me peculiar pleasure, in no way lessened by its repeated reading. I refer to André Maurois's "Les Silences du Colonel Bramble." To many, even though they had no war experience which would enable them to appreciate the aptness of his reading of British psychology, this author's writings must have given hours of mental refreshment. Could a happier instance of the inconsistency of British customs be imagined than the answer given by Major Parker to Aurelle's contention that the people had the right to choose their own leaders? "The right to control them, Aurelle, if you will, but not to choose them. An aristocracy cannot be elected. It either exists or it does not. For instance, if I should presume to choose the Commander-in-Chief, or the Superintendent of Guy's Hospital, I should be put in prison, but if I wish to have a voice in the election of the Chancellor of the Exchequer or of the First Lord of the Admiralty, I am a good citizen."

One of my early ambitions was to be a schoolmaster, and I am indeed glad that this project failed, but the idea of teaching may have been the reason for my enjoyment of those six years in which bone classes, the teaching of the elements of embryology, and attempts to help others to surmount the obstacle known as the First Fellowship Examination, were my life's work. Can one really teach anyone anything? I think a teacher must make up his mind at the start as to whom he is going to instruct—the 5 per cent. of really good men or the 95 per cent. of ordinary men! I hold that the mission of the teacher in a medical school is to try to help the ordinary man. It is one of the curious anomalies of our English educational system that even schoolmasters who come in contact with boys at their most impressionable age do not themselves receive any instruction as to how knowledge may be imparted to others. This equally applies to teachers in medical schools. Nevertheless, whatever may be said of these methods, I claim that the result is, on the whole, good—a belief which always makes me doubt the value of teaching, in that every man teaches himself (*i.e.*, learns) exactly that, both in quality and quantity, which his intelligence and industry enables him to digest.

Teachers suffer from the fact that only a comparatively small proportion of men in their earlier years, at school or in the university, are taught or intuitively acquire the habit of thinking for themselves. We are told that thinking is tiresome and exhausting, and it is suggested that most people avoid the process from laziness. I believe this to be very true, and it is an increasing danger to the young of each succeeding generation as the scientific aids to easy knowledge become more and more available and all-embracing.

One of the most valuable attributes of a great teacher—whether he be a master of the spoken or written word, or of one of the applied sciences—is his capacity to impress his personality on others; by this means he infects a school of young men with his spirit. It is scarcely necessary to point out that some of our most brilliant thinkers and clinicians have been peculiarly lacking in this quality. I believe Huxley was a singular example of this failure, and it has several times been observed that Murphy, the great surgical teacher of Chicago, left no one behind him to carry on his tradition. Whenever I find myself in Glasgow I spend a few moments in the Royal Infirmary before a bronze plaque which bears testimony to the pioneer work which Lister carried out within its walls—you may see a reproduction of his ward with its original furniture in the Wellcome Museum; I doubt if any student of this hospital has seen it, yet when he retires to Cornwall, New Zealand or South Africa, he may regret that he has made so little use of his opportunities. Lister laboriously and patiently established his principles in the face of a virulent and libellous opposition, which only a man of his temperament and training could have borne in silence without loss of temper and dignity.

In this School the two persons who have influenced thought and practice most in my time have been Starling and Arbuthnot Lane—four of the latter's old House-Surgeons were the full Surgeons here for some ten years prior to 1932, and in the surgical technique of this hospital to-day his influence is probably much greater than those of us, who did not know Guy's before his time, have as yet appreciated.

Committees under the ægis of various important bodies are attempting to deal with the difficult problem of the medical curriculum. Hitherto, escape has been found by allowing the medical course to encroach more and more upon the school period. Whatever may be the outcome of the deliberations of the curriculum committees, it is my earnest hope that no predatory hands will be further laid upon the school period, which is, in my judgment, already over-weighted.

In an endeavour to give students the chance of learning something of everything in medicine and its allied sciences, may we not lose sight of the importance to the doctor of general education.

It is difficult to know what qualities, what type of knowledge, what gifts ensure success in general or consulting practice, but surely Osler was pretty near the truth when he wrote: "In no profession

does culture count for so much as in medicine, and no man needs it more than the general practitioner, working among all sorts and conditions of men, many of whom are influenced quite as much by his general ability, which they can appreciate, as by his learning, of which they have no measure."[3] The chief effect of pushing the pre-medical subjects further and further forward into the school period has been to deny to the embryo doctor in his most receptive years a nodding acquaintance with the classics and a real appreciation of the lessons of history. I maintain that these are serious blots upon his education as a citizen and as a doctor—not because I have any desire that every medical student should know the date of the Battle of Waterloo, but because knowledge of languages, of peoples, and of nations provides, in my judgment, the soundest basis for learning in its widest sense.

It has been said that "a medical education ought to be as efficient an equipment for public life as any other."[4] The call to men of culture and refinement to take their part in public life was never louder, never more insistent than it is to-day when, in all parts of the Empire, the uneducated, through the power which increasing ranges of suffrage have given them, threaten even national existence by ignoring primary economic principles. As a profession we have been too prone to escape from such obligations by asserting either that their performance was impossible owing to urgent calls, or that politics should have no part in a professional man's life.

If we claim to possess in medicine brains equal, if not superior, to those of the Bar and of other professions from the ranks of which politicians are mainly recruited, have we any right to deprive the State of help which our leaders can offer in advice and direction? Though to every one is not given the opportunity or, perhaps, the temperament for public service, there is no need for any medical man wishing to take part in some form of non-professional work to step into municipal or political life.

There is in every town so great a need of willing workers, to run medical societies, edit medical journals, or to administer benevolent funds, that no one can excuse himself of a duty which I submit every doctor owes to the State and to his profession, on the grounds that no opportunity exists for the exercise of such activities.

Two years ago I paid a typically American visit to Australia and New Zealand. The two characteristics of the peoples of these Dominions which most impressed themselves upon me were their intense and universal Imperialism and their regard for tradition, which latter was coupled with a longing for the traditions of the old country.

Well, Guy's teems with traditions. These are the shackles which she places on each one of us as the price, and at times the heavy price, of being allowed within her gates. These we have to live up to, or at least have to make a reasonable attempt to do so. Now I am not sure that the inhabitants of the newer countries are happy in envying us our traditions; as I told them on one occasion, they should bear in mind the retort of the aged Marshal of France, Pierre Lefebvre, when twitted upon his origin by some of the scions of the old nobility at a banquet given in his honour by Napoleon: "You are descendants! I am an ancestor!" So I tried to reassure my Australian audience that they were, perhaps, happier in being able to create their own traditions and establish their own schemes of town-planning and architecture.

The present-day Australian, and the New Zealander no less, is an out-and-out Imperialist, and the needs, demands, privileges and duties of the Empire and its citizens are in these Dominions the topics of everyday conversation. How often does one hear the Empire mentioned in this country, save as a catch-word in election addresses?

If I leave you no other thought worthy of subsequent meditation, I would impress upon each one of you the urgency of the opportunities which now exist of taking hold of the outstretched hands of our brothers "down under." Such chances, if now scorned, may not occur again. If the British Empire can be brought into complete accord it should be a force in the world for good inestimable. There are several small ways in which each one of us can help this project, which needs no Government subsidy. They desire sympathy and affection; gestures of friendly feeling are of more value than financial benefits.

Each New Zealand medical student spends a year in clinical work at one of the four medical centres—Auckland, Christchurch, Dunedin or Wellington—and after graduation at the end of a six-years' curriculum often seeks wider clinical experience in other countries, usually in England. Would it not be equally of advantage to every English graduate to spend six or twelve months after qualification in the Dominions, seeing other hospitals, sampling their teaching, and by a sympathetic interest in their problems doing something to strengthen their attachment to the Mother Country? Once established in practice or in some appointment, travel is impossible; therefore, if you can immediately after qualification, seize the chance of a Wanderjâhr, and study some part of the Empire first-hand. By financing such a scheme one of our wealthy Imperialists might establish an undertaking capable of results scarcely less important than those which

have been the outcome of the vision of Cecil Rhodes.

I recall, 20 years ago, a trip in a stern-wheeler along the Mississippi (in much the same fashion as told of Huckleberry Finn by Mark Twain) as the guest of one of the most gifted of our American brother surgeons. He advocated a union of the English-speaking races as a force for the preservation of world peace. Is such a project still a practical proposition?

In my judgment one of the greatest, if not the greatest, tragedy of the war and subsequent years has been the failure of the American peoples to establish a national psychology. Lacking this, the possession of a virile and educated population and a large percentage of the world's wealth will avail them nothing in the councils of other nationals. It would seem that until they are welded together by something they have not yet acquired they cannot be regarded as a country with which the British Empire should have the closest possible association.

The meaning of Imperialism to the individual is at once apparent if we embrace Curzon's definition of it as "a sense of sacrifice and the idea of duty."[5] Unless a man is prepared for much unselfishness he should not enter our profession, so every medical man should be a keen Imperialist and happy in his sacrifice.

Besides the obligation of public work there are other, perhaps less pleasant, duties which we owe to ourselves, our School and our profession. Of these possibly the most exacting is that which I am endeavouring to fulfil at the present moment. I cannot imagine that anyone really enjoys speaking in public. Paget[6] tells us that fluency of speech is a natural possession, yet even he who admittedly was so gifted felt compelled to "learn every word" of an important speech "by heart." I would urge every Guy's student to acquire, either in the Debating or Physical Society, such a degree of ease and fluency as he may have at his command, and most of all not to allow himself to get into the habit of refusing to speak, for if so he will find that the effort becomes increasingly laborious and his vocabulary more and more limited.

I believe that it is given to very few, if any, men to speak fluently without considerable preparation. This is a matter about which even the most honourable are inclined to deviate from the truth. Personally, I think it must be a help to the weaker and more shy to know that one who is apparently complete master of his subject, and of the occasion, is in truth a cold jelly-fish of misery and fright. As a fact, I do not envy those to whom such things come easily, for they can never know the pleasure which one derives from having advanced even one short step along the road which leads to the palace of perfection, whose portals in one's own judgment one can never even have in view.

It has been said of hospital staffs that they are divisible into two categories: those who write too little and those who write too much. The doctor with a well-developed critical faculty hesitates to put his views on paper, because he feels that he has no real contribution to make to knowledge. The mental attitude of the man who rushes into print to describe as a novelty what has long been recognised is one to be avoided. One should never write without a careful and comprehensive search of the literature on the subject. This reminds me of a narrow escape I had some years ago. When fishing in Ireland we caught some fine trout of a species known as gillaroos. It is locally supposed that they have gizzards because they take gravel and shells in their food. I got our landlady to open one, and found only a very thick-walled stomach containing gravel and shells. Thinking I could settle an interesting question, I contemplated a short paper on the subject, but, working at the time on a lecture for the Royal College of Surgeons, I had occasion to consult the writings of John Hunter, when I found he had forestalled me by 150 years in a paper "On the so-called Gizzard Trout."[7]

We are inclined to think chiefly of what we may get out of Guy's, but do not suppose that in your transactions with your Alma Mater her motto will prove to be all give and no take on her part. From the moment you enter the Dean's office and sign your name in one of his large books you have sold your soul to Guy's, a most exacting mistress, who quite persuades her children that every demand she makes upon them is for their good and pleasure. Yet no one of us, enslaved by her for many years, would, if we could, be freed of the chains which bind every Guy's man, in whatever part of the world he may be found, to the service of the sick and the love of his hospital, so if it be true that "Service is the key to happiness," need one look further for the reason why most of us are so happy at Guy's!

NOTES

1. Pilocereus Senilis, by Dr. Walter Moxon, p. 8. "I wonder if Guy's motto, 'Dare quam accipere,' has any reference to the physic given there. No doubt it is not so good to have to take that as it is to give it."
2. Æquanimitas, p. 437.
3. Æquanimitas, p. 302.
4. Syme, G. A., *Med. Journ. of Australia*, Vol. ii, 1920, p. 539.
5. Curzon, Harold Nicholson, p. 15.
6. Memoirs, p. 132.
7. Hunter, John, Works of, p. 126, iv, Palmer, 1835.

The Laying of the Foundation Stone of Nuffield House

ON October 3rd, after the Annual Prize-Giving and the Address by Mr. Fagge to mark the opening of a new session, there followed the ceremony of laying the Foundation Stone of the new Private Block by Lord Nuffield, who has become such a great benefactor to the Hospital.

Before describing the proceedings it may be of interest for those who were not fortunate to be there to describe the scene that was laid for the occasion. A marquee had been constructed, using for support the first steel girders of the new building, so that in the event of rain the proceedings would not be spoiled. The marquee was laid open on its north aspect to the Park. In the centre was the foundation stone, hanging by pulley and chains from a cross-beam and surrounded by powerful lights and a microphone erected by a sound-film company. Chairs were arranged at both ends facing the centre, those at the east end being raised on a dais.

At 3.20 p.m. the official opening of the new session having ended, students started to collect in the Park around the open side of the marquee. Soon the distinguished visitors began to arrive, and many well-known and familiar faces were picked out. As the hour approached the excitement increased, every available window in Hunt's House became crowded with faces and every available seat in the marquee was occupied. Finally, when the stage was set, the principals taking part in this great occasion issued from the Medical School and made their way through an alley of students to the dais, where they took up their positions.

Mr. Whitbread was the first to rise, and described briefly the history of Bright Ward and how, during recent years, the demand for accommodating paying patients of moderate means had made it necessary to consider building a Private Block, and how at the crucial moment Lord Nuffield had stepped forward and offered to pay the cost of erecting a building on the site of the Baby Ward. He also paid tribute to Mr. Arthur Rank, who had offered to defray the expenses of transferring the Department for Venereal Diseases and the Baby Ward to other parts of the Hospital. He finished his address by inviting Lord Nuffield as Founder to lay the Foundation Stone. The Architect, Mr. W. J. Walford, then handed a silver trowel to Lord Nuffield, who without more ado bent on his knee and laid the cement in a fashion which must have amazed even the most critical judge. As he stepped back from his work the stone was lowered into place. After the level had been tested and the stone given two sharp taps with the hammer, he declared the stone well and truly laid.

The Acting Chaplain, the Reverend E. Royle, then pronounced a blessing on the stone and the future of the building which will rise upon it.

After this Lord Nuffield addressed the company and told how he had learned of the necessity for such a building and how glad he was to play his part in its conception, and thereby to render it possible for the man of moderate means to secure adequate medical attention at a reasonable expense. Much to everybody's delight he said he was glad to announce that he had been able to provide another £20,000 to the original donation of £45,000, so that 73 patients could be attended instead of 43. This was met with the appreciative clapping that it deserved, and as he stepped back to his seat Mr. Doherty rose and cried for "Three cheers for Lord Nuffield!" Three more hearty cheers have not been heard in the grounds of the Hospital for many years, and they were quickly followed by the singing of "He's a jolly good fellow," with equal enthusiasm. Finally, with three more cheers the ceremony came to an end.

Afterwards tea was served to the guests in the Court Room.

D. P. K.

Speeches at the Ceremony of the Laying of the Foundation Stone of Nuffield House

MR. F. P. WHITBREAD (Treasurer of the Hospital) said :—

MY Lords, Ladies and Gentlemen,—It is just 50 years since a ward for paying patients was instituted at Guy's Hospital, for in May, 1884, Mr. Lushington, who then occupied the honourable and somewhat hazardous position of Treasurer of this Hospital, brought to notice "the necessity of adopting measures with the view of increasing the income of the Hospital," and suggested that "something might be done to utilise the empty wards for Paying Patients."

The ward was opened in September, 1884, and in November of the same year Mr. Lushington stated that "some of the 12 cubicles prepared for private patients in Bright Ward had been occupied, but that the number of applicants desirous of taking advantage of them had been comparatively small."

Notwithstanding this rather discouraging start, the popularity of the ward steadily increased, and in January, 1888, the Governors of the Hospital decided to fit up the two unoccupied compartments of Bright Ward in a manner similar to those already occupied, thus increasing the number of cubicles to 23, and to appoint a Resident Medical Officer specially for the service of the ward.

In 1923 an additional six cubicles were provided in an Annexe, and the Bright Ward and its Annexe now contain 30 cubicles and one private room. With the succeeding years its popularity has steadily increased, so much so that the number of applicants for admission is so great that patients usually have to wait for a fortnight or three weeks before they can be admitted.

Since 1900, 16,243 patients have been accommodated in the ward.

If this was a Government Return I have no doubt I could give you the figures, calculated to several places of decimals, of the number of those patients still alive (laughter), the percentage of those patients who derived no benefit whatever from their admission to this private ward, and a further percentage of those who were worse for admission to that private ward. But I am thankful to say this is not yet a Government institution, and I have not those returns handy, so I cannot give them.

In recent years the increasing demand for admission had caused our Medical Staff here to consider seriously whether some steps should not be taken to provide further accommodation for a class of patient who is prepared to pay considerably less than he or she would have to pay in a nursing home—situated, as they usually are, in the noisiest quarters of the West End of London—in an institution with a skilled medical staff close at hand.

There was an obvious desirability of proceeding on those lines, and the Governors and the Medical Staff carefully considered the matter for some months. We knew exactly what we wanted to do, but we were brought up by the old problem which has confronted the mind of man ever since "Adam delved and Eve span." To put it colloquially, the trouble was how to "raise the wind."

We considered the possibility of the issue of debentures. The issue of debentures is a very pleasant pastime provided you can see your way to a sufficient revenue accruing to provide for overhead charges, depreciation, and the service of the debt. We further considered the possibility of invoking the powerful and benevolent aid of an insurance company. But just about the time we were considering this course the year 1929 arrived, when there was a pretty universal collapse of credit, and it was impossible to issue anything, except possibly a prospectus, and the effect of that would probably have meant free board and lodging at one of His Majesty's hospitals. So, as the nautical people say, we were "up, all standing."

Then Providence intervened, as Providence sometimes does, in the extraordinarily welcome personality of Lord Nuffield. (Applause.) We received an intimation from Lord Nuffield, then Sir William Morris, that he was prepared to give a sum of £45,000 for the erection of a new block for Paying Patients. (Applause.) To say that we accepted that proposal would hardly be adequate. We tumbled over each other to embrace it, and we metaphorically embraced Lord Nuffield by immediately and enthusiastically electing him a Governor of this Hospital. (Applause.) It is impossible for me to do anything like adequate justice to the feelings of gratitude which the Governors and Staff alike entertained for that noble offer, which has done so much to extricate us from a particularly thick and impassible wood.

We then went to work. It is quite easy to go to work when you have the money. We had the advantage of all the medical and surgical experience of our Staff, and we had the further advantage of a most gifted and talented architect in Mr. Walford. We went to work and got the approval of the King Edward Hospital Fund, and we have progressed up to the very interesting point which we have reached to-day.

I am just going to say a very few words about the Nuffield House of the future.

In providing accommodation, regard has been taken of the fact that few patients care for cubicles. Provision has, therefore, been made for both single private rooms and small wards, each containing four cubicles, to suit varying requirements. The capital charges having been defrayed by Lord Nuffield, it will be possible to arrange for maintenance charges which will be well within the reach of persons of moderate means. Nevertheless a limited number of rooms of a more luxurious type with private bathrooms will be provided for

those patients of ample means who desire to avail themselves of all the facilities and advantages which can only be obtained at a large hospital well equipped with every variety of department for diagnosis and treatment.

Patients admitted to Nuffield House are not restricted to the professional services of the Medical and Surgical Staff of Guy's Hospital, but may be under the care, subject to the approval of the Superintendent, of any person of consultant rank.

It has been necessary, in order to clear the site for "Nuffield House," to provide alternative accommodation for the Infants' Ward and the Venereal Diseases Department, which formerly occupied the site. Accommodation has been found for these departments elsewhere, and the cost of their transfer, approximately £5,000, has been generously guaranteed by Mr. Arthur Rank, a Governor of the Hospital. (Applause.) I would like to express our very great gratitude to Mr. Rank for his very generous gift. Nuffield House will, therefore, start its activities unencumbered by any debt.

The new building will be five stories in height, and will, when completed, accommodate 73 patients. The ground floor will provide admission and administrative offices, and on the upper floors there will be 53 separate rooms and five four-bedded rooms, wherein each patient occupies a cubicle space.

I could go on at some length to explain the details and future glories of Nuffield House, but I think I will follow the example set by the Apostle Paul on a celebrated occasion and spare you further details. I will content myself by asking Lord Nuffield, with the greatest possible pleasure, to lay the foundation stone of Nuffield House. (Applause.)

After laying the Foundation Stone, The Rt. Honourable LORD NUFFIELD, O.B.E., D.C.L., said:—

LADIES and Gentlemen,—I now have the greatest pleasure in declaring this stone well and truly laid. (Applause.)

Some time ago it was intimated to me that the present accommodation in this Hospital was nothing like the needs and the requirements of paying guests. When we speak of paying guests I think we must consider those people who are neither entitled to come into this Hospital as ordinary patients, nor well enough off to pay the charges in nursing homes. Many patients who would willingly pay the charges of a paying bed in a hospital are not able on many occasions to pay the fees of physicians and surgeons in nursing homes.

Now, Ladies and Gentlemen, it can truly be said that this Hospital, with its wonderful traditions which are still maintained, will be able in future to supply the needs of these people, and it gives me the greatest possible pleasure to lay this foundation stone this afternoon.

Some time ago the plans were shown to me whereby 43 beds would be provided under the normal conditions of this paying block. But it was also shown that by the additional expenditure of £20,000 nearly double the number of beds could be provided. So this afternoon I have the greatest pleasure in announcing that I am prepared to put up another £20,000, added to the £45,000, to bring about those developments. (Applause.)

I would like to pay the highest tribute to the Staff of Guy's Hospital. I have known some of them for many years, and they have always appealed to me as being hard workers in the cause of humanity. That is the reason why I am here to-day and why I am making this gift to the Hospital. I can only hope that what has been done will provide relief for many sufferers who are neither in a position to go into a hospital as ordinary patients nor to go into a nursing home, for the reason that they cannot afford it. I only hope this block will provide the means whereby these sufferers will receive the benefits of this institution. I am sure they could not receive better advice or services than they will obtain at Guy's Hospital. (Applause.)

Ladies and Gentlemen, I think we have now done our job well and truly. (Applause.)

The following accepted invitations to be present: The Treasurer (Mr. F. P. Whitbread), Lord and Lady Nuffield, Lord Richard and Lady Moyra Cavendish, Lord and Lady Ebbisham, Lord Queenborough, Mr. Edward Giffard and Lady Evelyn Giffard, The Hon. Francis Rodd, Mr. Edward Grenfell, Sir W. Arbuthnot Lane and Lady Lane, Lord Cunliffe, Sir William and Lady Hale White, Lady Corry, Lady Nina Knowles, Sir Percy and Lady Shepherd, Colonel R. W. Barclay and Mrs. Barclay, Sir William and Lady Gentle, Sir Louis and Lady Greig, Mrs. Shirley Adams, Mr. Oscar Raphael, Mr. and Mrs. Stuart Menteth, Mr. Eardley Holland, Mr. and Mrs. H. F. Methven, Sir Charles and Lady Batho, Mr. V. Warren Low and Mrs. Warren Low, Mrs. Woolland, The Hon. Denzil Fortescue, Dr. John Fawcett and Mrs. Fawcett, Mr. and Mrs. Robert C. Nesbitt, Mr. and Mrs. W. M. W. Thomas, Mr. Wilfred Hobbs, and a number of the Consultant and Visiting Staff of the Hospital.

The Medical Curriculum

1. The Sciences

THE matriculated student will, in his first year, study Inorganic and Physical Chemistry, Physics and General Biology, and at the end of this period, provided he has worked diligently in the laboratories, and attended the Lectures and Revision classes regularly, should have no difficulty in passing the First Examination for Medical Degrees. In his second year he will study Organic Chemistry, together with Anatomy and Physiology, and at the end of the second winter, provided, as before, that he has worked steadily from the commencement, should have little difficulty in passing the First Part of the Second Examination for Medical Degrees. Anatomy, Physiology and Pharmacology are then taken as the Second Part of this Examination at the close of the third winter, prior to commencing Clinical work in the wards.

From Medical and Dental students who are preparing for the Pre-Medical Examination only six months' work is required, but those entering without previous knowledge of Chemistry and Physics will find that time hardly sufficient, and are usually advised to take the full "year" of three terms, or nine months.

The importance of practical work cannot be too greatly emphasised, and lectures and books can but supplement work done in the laboratory. Guy's men have no excuse for neglecting laboratory work. Students are strongly urged to form early the habit of spending their spare hours, apart from those officially allotted, in one or other of the laboratories. Reading should be left for the evening. After a day in the laboratory, reading a good text-book will be found to give ample scope for thought. "Cramming," or the memorising of words and phrases, without a knowledge of the corresponding realities, is one of the worst intellectual habits a student can acquire, and in the long run invariably leads to failure.

CHEMISTRY AND PHYSICS

The student is often tempted to regard the study of Chemistry and Physics as one of very little use when once his preliminary examination is passed, but he will find in his study of the sciences of Physiology, Pharmacology and Pathology that a proper understanding of Physical and Organic Chemistry and Physics is invaluable and essential. That this is so is now fully recognised in the London University curriculum, which should be carefully studied by every London student

BIOLOGY

Biology, like all the sciences, is properly studied in the laboratory, because things seen are better understood and remembered than things read or heard. Animals and plants are the true sources of a knowledge of biology, and more correct than the text-books written about them. Acquire, therefore, the laboratory habit and record carefully what you observe. Use your books as reminders of the things seen. Draw much. It saves you from the habit of verbal memorising. The drawing of a diagram is the best way of testing the accuracy of one's knowledge in a descriptive science like biology. In the laboratory are also demonstrators whose duty it is to clear up your difficulties. Equip yourself with the necessary instruments. A microscope is needed at once. Its purchase requires care and advice. Students have been known to saddle themselves with an instrument that gives them unsatisfactory results for a whole year, and gets condemned in a later microscopical course. This is poor economy, as the difference in price between a good and poor microscope is small. If you are buying a secondhand instrument, bring it to the laboratory for examination by the demonstrators before you complete the purchase.

ANATOMY

Too much emphasis cannot be laid on the importance of the careful dissection of the human body as an aid to the student in learning the subject of Human Anatomy. The man who has not dissected the whole body with average care can never hope to acquire familiarity with the subject, and experience shows that the man who neglects or "scamps" his dissections—and incidentally endeavours to make up the lost ground by dint of hard reading—has infinitely more difficulty in satisfying the examiners than the man who has completed his dissections conscientiously, even though he may have given much less time to his reading than he might have done. This is, it is true, the sordid examination point of view, but it is, nevertheless, not to be lost to sight.

It is unfortunate that limitations of time and other cogent reasons demand that the student should commence his dissections at the same time as he receives the introductory lectures on anatomy, an arrangement which increases his initial difficulties in the dissecting room. At the very outset

he will find himself faced with a mass of facts in which there seems to be neither rhyme nor reason. After a little, however, the fog by which he has been enveloped will begin to lift, and, gradually, he will come to appreciate that what at first appeared to be a chaotic collection of structures, endowed with unintelligible and apparently meaningless names, resolves itself into a reasonable and orderly arrangement of structures, whose names are, for the most part, peculiarly appropriate. There is a danger lest, at this stage, when he is beginning to see daylight, he should occupy too much of his time with the names which must necessarily be given to individual structures. The names themselves have, of course, no intrinsic value, and are merely used to facilitate description. Attention should be devoted instead to discovering the functions of the structures displayed by dissection and to observing the relationship which exists between function and structure. Throughout his whole period in the dissecting-room the student should seek to correlate his Anatomy and his Physiology. If he does so he will find that he is simplifying the task in hand, for the one subject will help him with the other.

It is important, too, to appreciate that while the cadaver is being dissected the topographical information acquired by this means can be applied to the living subject. Most of the superficial structures and many of the deeper ones can be recognised either by the eye or by the hand in the living body, and the student should learn to identify on his own person, so far as is practicable, the various bony points, muscles, tendons, etc., which can be seen or felt. He should also endeavour to visualise on himself the position of the deeper structures which present no surface landmarks. After all, when he enters the wards, and in after life, he will have to deal for the most part with living patients, and, apart from actual surgical operations, he will be compelled to visualise on their bodies the position of the structures which he has dissected in the cadaver. The correlation between the dissected subject and the living body is difficult only when it is regarded as a separate section of human anatomy to be learnt from books, after all the dissections have been completed and in the last few days before the professional examination. The student, therefore, must constantly strive to form mental pictures of the regions as he dissects them, and to project these pictures on to his own body.

Once he has obtained a reasonable knowledge of the general anatomy of the body, the student who possesses any imagination will find Human Embryology a fascinating subject. Here he will find the explanation of much that may have hitherto appeared to be inexplicable, and here, too, he will see modifications of function and structure proceeding side by side.

The Guy's student is fortunate in having a modern and well-equipped department in which to work. In addition to the material which is always available in the dissecting-room and in the specimen rooms, the famous Towne collection of wax models, which is housed in the Anatomical bay of the Gordon Museum, can and ought to be utilised freely for study and for reference.

PHYSIOLOGY

Before the student can hope to appreciate the abnormalities and disturbances of function which form the material for his clinical studies, a sound knowledge of the normal function of the body is essential. Physiology is the science which supplies this basic knowledge and the student who obtains a firm grounding in this subject reaps his reward.

Physiology is a science which is entirely based upon the triad of experiment, observation and deduction. For this reason its study is of inestimable value for the training of the mind in the powers of logical reasoning. The major part of the course consists of experimental work in which the student is able to see for himself and draw his own conclusions; this makes the subject extremely interesting, and relieves the student from a heavy burden of hard facts which can only be retained by a feat of memory.

The practical classes are divided into three groups. In the experimental class the student records and measures the activities of living tissue from frog and mammal. In the chemical class he studies the composition and reactions of biological material. In the human class he makes observations upon the human subject. In all classes stress is laid on those aspects of his work which have a direct bearing on his future studies, so that he should carry into the wards a knowledge of the more important biological processes.

As a guide to the student in his studies a course of lectures is given each year; this serves, not so much as a source of actual information, as a means of correlating and balancing the student's knowledge. Observations, which may be quite dissociated in the student's mind, can be brought together—woven into a complete whole. In addition, clinical demonstrations are given to the senior students each week, and these serve as an introduction to the application of physiological principles in the study of the disturbances associated with disease.

The student is advised to commence his reading of Physiology with an introductory book such as

Winton and Bayliss's "Human Physiology," The choice of text-books is large, but Halliburton's "Handbook of Physiology" or Starling's "Principles of Human Physiology" should satisfy his needs. There is a small library in the Physiological Department, and students may borrow works on special subjects.

PHARMACOLOGY

Pharmacology is the study of the action of medicinal substances on the normal body. It is the basis of all methods of chemical treatment and forms an important natural scientific link between physiology and practical medicine.

A preliminary knowledge of physiology is essential. The student is introduced to the subject before his clinical period, but cannot realise its full significance until he has come face to face with the actual problems of therapeutics in the wards. A short revisional study at this stage of his curriculum is strongly recommended.

A six months' course of bi-weekly lectures and demonstrations is given during the two winter sessions, and should be attended by all students. Revision classes are provided for each of the four examinations of the Conjoint Board yearly. Candidates for the B.M. (Oxford) must also attend the practical classes which commence in January.

Lectures.—On Mondays, 4 p.m., Fridays, 1.15 p.m., in Physiology Theatre, commencing Friday, October 7th.

Demonstrations.—Details to be announced later. In Pharmacology Laboratory. Dates to be announced during lectures.

Revision Classes (Conjoint).—To be held in November in Pharmacology Laboratory. Dates to be announced later.

Text-books.—Dixon's "Manual of Pharmacology" is the most suitable text-book for general use. Gunn's "Introduction to Pharmacology and Therapeutics" summarises the subject in a readable way and is invaluable for revision purposes. The practical classes are based on Sollmann and Hanzlik's "Experimental Pharmacology," but Dixon's "Practical Pharmacology" is sufficient as a short laboratory guide.

A comprehensive Departmental Library is available for those more deeply interested in the subject.

2. Pre-Clinical Period

THE extension by the Examining Bodies of the student's curriculum of study has allowed the addition of an extra period of three months' preliminary instruction before the student actually embarks on his duties in the wards.

It has long been felt that the time allotted to the study of Medicine, in the limited sense, has of late years been encroached upon and curtailed by his duties in the Surgical Wards and the Special Departments, and the opportunity was gladly seized of redressing the balance by giving him extra tuition in medical subjects.

The object of the Pre-Clinical Period is to instruct the student in the routine methods of examination of patients and in the detection and interpretation of physical signs, so that on his entry into the Medical Wards he will be able immediately to derive full benefit from the teaching of the Registrars and Physicians without the laborious explanations and tedious insistence on elementary points necessary before the introduction of the scheme.

In addition to this instruction, which he receives from the Clinical Tutor in charge of the course, the student gets a course of Clinical Chemistry from Dr. Ryffel and Dr. Waterfield, Elementary Pathology, Minor Surgery and Bandaging from the Surgical Registrars, and instruction in the methods of examining the eyes, ears, nose, etc., from the heads of the departments concerned

3. The Wards

SURGICAL WARDS

THE appointment of surgical ward clerk is the first of the appointments held by the student during his Clinical training. In many ways it is the best of all the appointments, as most of the teaching, both by the Surgeon and the Registrar, is for his special benefit. Furthermore, a reputation for keenness and ability earned in those early days will follow him and help him throughout the rest of his time at the hospital. Each clerk is attached to one of the surgical units for three months, and it is his duty to record the history and progress of the cases allotted to him.

The wards are open to the student at 10 o'clock, and he should have written up the history of the case and, as far as possible, have examined the patient before the Registrar of the unit begins his round at 10.30, when each case is discussed and the report of the clerk confirmed or amplified. The student during this period will do well to

confine most of his attention to the detection of the physical signs, and should procure from the Medical School Office a copy of the red book entitled *Instructions in Case-Taking, Surgical*, which he will find a very good guide to sound and systematic examination of the patients.

While he is acting as ward clerk the student attends a course in Elementary Pathology and Pharmacology, and at the same time has unrivalled opportunities of seeing dressing and operations, more especially during his "take-in" week. There will be much hard work, and many late hours, but there will be also incalculable compensation in seeing and learning the practical points that will stand him in good stead. He is doing his own work of ward clerk, but must remember that he is learning also to be a dresser.

As a dresser the student spends two periods of three months. While the surgical work is very dependent on the dresser for its smooth efficiency and good results, the dresser must realise that he himself is very dependent upon his work, for it is during these six months that he lays the foundation of his surgical knowledge and sound after-care. Someone has said that every surgeon should be his own dresser, so that the dresser must appreciate the responsibilities that he assumes in thus deputising for his surgeon.

We have said very little about the actual tasks of the dresser; he should read the "standing orders" relative to his appointment, and from then on everything depends upon himself. He has been given a valuable appointment and one difficult to do well, but one that repays hard work almost more than any other appointment he can hold.

MEDICAL WARDS

To each medical ward clerk is allotted a certain number of beds, and he is expected to examine and write full reports on all patients who are admitted into these. Occasionally, it so happens that a patient is too ill to be examined except by the House-Physician and Physician, or that a case dies before the ward clerk has had an opportunity of seeing it. Under these circumstances he should obtain the history and an account of the symptoms, physical signs and progress of the case from the House-Physician, and should base his report on these data. It cannot be too strongly insisted that a report, however brief, must be written on every case, and it is of the greatest importance that *the diagnosis and remarks made by the Physician should be entered at once into the report*. Moreover, any errors detected by the Physician or Registrar in the original report should be immediately corrected. In the event of a patient dying, the ward clerk must obtain the abstract of the post-mortem findings and carefully enter it up, and it need hardly be said that all clerks should make every effort to see the post-mortem examination of any case they may have seen during life.

The medical wards are open to clerks from 10 till 12 noon, and from 1.30 till 6.30 in the evening. The Registrars begin their rounds at 10.30, and by that time a clerk should at least have full notes of the history of any new patient who may have been admitted into one of his beds, and he should have a full report in readiness for the Physician in the afternoon. Ward clerks should realise that they are expected to know the details not only of their own cases, but of every patient under their Physician. It is no excuse to plead ignorance because "this is not my case." If only a clerk will take the trouble to make himself conversant with each case in this way he will find at the end of his six months that an enormous amount of clinical material has passed through his hands, and he will probably have acquired enough knowledge of medicine to enable him to pass the Conjoint Final with but little additional reading. But so many men waste their time through sheer laziness in the medical wards, never realising that they are throwing away experience which would prove invaluable to them later on.

Again, the curriculum provides but six months for the study of pure medicine, whereas nine months are allowed for the pursuit of surgical appointments. Further, during their period of medical clerkship men are apt to take more time than is justified for the study of Pathology and Bacteriology, which they have neglected whilst in the Surgical Wards.

An hour spent in the wards after tea three or four times a week will give opportunities not only for going over cases and writing up reports, but also for seeing the House-Physician tap chests and abdomens, etc. The treatment, too, which each case is receiving, may well be studied at this time.

As regards reading, the best method is to study the text-book account of each disease as one comes across it in the wards or in discussion, and afterwards to compare, if possible, the text-book description with the symptoms and signs presented by the patients. At the same time the most important medical journals should be read regularly, for by this means only can the student keep himself in touch with modern work. The *B.M.J.* and the *Lancet*, the *Quarterly Journal of Medicine*, as well as the *Journal of the American Medical Association*, are especially recommended.

Books that may be recommended are the following: The well-known text-book by Osler, Dr.

Poulton's revised edition of Taylor, Dr. Conybeare's *Text-book of Medicine*, and *Physical Diagnosis* by Cabot. For second three months ward clerks, the most important monographs in Allbutt's or Osler's *System of Medicine* will prove valuable and interesting reading. For laboratory work Hutchinson and Rainey's *Clinical Methods*, or Dr. French's book will be useful.

OBSTETRIC & GYNÆCOLOGICAL WARDS

After finishing appointments in the Medical and Surgical wards the student is posted to the Obstetric Department for six months. During the latter half of this time he is also attached to the Physician for the Diseases of Children. The Obstetric Dresser is responsible for case-taking in the wards and at Out-Patients, assists at operations, and during one month acts as Extern in the Maternity Charity. The Department has 26 beds reserved for gynæcological cases and 21 for the reception of cases presenting complications in pregnancy, labour and the puerperium and normal labours.

As an intervening link between the Obstetric and Children's Departments is the Salomons Centre, in which the health of mothers and infants is fostered by the practice of preventive medicine.

With this wealth of clinical material it should be possible for every student to obtain a sound knowledge of methods of diagnosis and treatment founded on no small experience. It is, however, recognised by teachers of Gynæcology and Obstetrics that this desideratum is not always attained. It is undoubtedly true that many a young practitioner has to admit a regrettable ignorance of the ailments which afflict his female patients and of the proper management of the pregnant, parturient and lactating woman. And these subjects form the foundation upon which a successful family practice is built. Responsibility for this sad state of affairs hardly rests with the student, but he will do well if he starts his clinical work with the firm determination to avoid the pitfalls that beset his feet. He must realise that practical experience in diseases peculiar to women cannot be acquired in the space of the three months which he will spend in Queen Ward. As he passes from one appointment to another he must resist the tendency to develop the compartmental mind and must endeavour to cultivate a wide outlook on medicine as a whole.

The study of the physiology and pathology of the functions of woman should be begun at the outset and continued throughout the period of clinical training. The man starting as Surgical Ward Clerk should include among his initial purchases a text-book on Gynæcology, for purposes of reference, and should make a point of attending the lectures of the Obstetric Surgeons. He should also avoid no opportunity of acquiring the "tactus eruditus" so essential to the accurate diagnosis of pelvic disorders; the inherent impossibility of permitting a class of students to examine women patients one after the other renders it imperative that this experience be gained over a considerable period of time.

The study of midwifery he may well leave until he becomes an Obstetric Dresser; the art of the accoucheur cannot be learnt from books.

4. Pathology and Bacteriology

PATHOLOGY

WHEN the student has passed the Second Conjoint or M.B. Examination, he is halfway through his medical curriculum, and he should have gained a working knowledge of the functions of the body in health. This knowledge is an essential preliminary to the study of the most important of the medical sciences, viz., Pathology, or the study of the functions of the body in disease. Throughout his life the student, if he continues to study and practise medicine, must ever keep pathology in the foreground. It is desirable, therefore, that the study of pathology be begun as soon as possible and continued throughout a medical career.

The subject is an exceedingly large one, and it is customary to divide it into several sections :—

1. General and Special Pathology;
2. Morbid Anatomy;
3. Morbid Histology;
4. Bacteriology;
5. Chemical Pathology.

Due attention must be paid to each of these branches in proportion to their importance relatively to one another and to clinical medicine and surgery as a whole.

During the pre-clinical period the student must attend classes and demonstrations in elementary pathology, bacteriology and chemical pathology.

During the Autumn, Spring and Summer Terms, systematic lectures and demonstrations in pathology and bacteriology are given. Three lectures and three practical classes are held weekly, the former at 9 a.m. and the latter at 12 noon.

Regular attendance at these classes is imperative, and the attractions of the wards and of clinical work should on no account be allowed to interfere with laboratory studies.

While medical ward clerks, during their tenure of office, should attend classes on chemical pathology, it is essential that throughout all ward appointments no opportunity should be missed of continuing the study of pathology.

Apart from set lectures and classes, students and house-officers are cordially invited to make use of the resources and facilities provided by the laboratories in order to add to their knowledge of a subject that lies at the root of all successful clinical work.

Every man should, as far as is practicable, follow out the pathology of each and every one of his cases.

Is a bacteriological investigation to be made? He should follow it out as far as possible. Is a portion of tissue removed for microscopical examination? He should see and examine the section. Is a chemical examination demanded? He should endeavour to see the analysis carried out. He should never miss an autopsy on any one of his cases, and should make a point of keeping a special note-book in which he can enter the clinical history and progress of a case, the post-mortem findings if the case comes to autopsy, and the result of the histological examination together with a general review of the case in the light of that further evidence.

Set hours cannot be given for these lines of study; they must be fitted in as time and opportunity permit. In short, efforts should be made to see as much practical work and as many demonstrations in pathology as can be arranged. There are few days when no pathology can be learned. Post-mortems are held every day at 1.30 p.m., except on Wednesdays and Saturdays, when the hours are 12.30 p.m. and 11.30 a.m. respectively. Attendance at these will amply repay the time expended.

Informal classes in Pathology are held twice weekly during the October and May terms. These, though primarily intended for M.B. students, are suitable for, and should be attended by, those sitting for Part I of the M.B.Cantab. and the Final M.B. of Oxford or London University.

During the later clinical appointments certain students may hold a few pathological posts, such as Student Demonstrator in Pathology or Student Assistant in the Bacteriological Department. One or more of these may be held in turn, and they prove exceedingly valuable from the learners' point of view.

There are many books which might be recommended, and what suits one student may not prove attractive to another. The following, however, will prove adequate for all the students' purposes: in Pathology, Boyd's Textbooks or MacCallum's or Muir's Manuals; in Morbid Histology, Donaldson's Handbook; in Clinical Pathology, Panton and Marrack; and for Bacteriology either Muir and Ritchie's Manual or Bigger's Handbook.

BACTERIOLOGY

Bacteriology, although for a time regarded by the clinician as affording information of merely academic interest, has now made a most profound impression upon the theory and practice of both medicine and surgery, and by providing specific treatment for many microbial infections has emphasised the necessity and stimulated the demand for exact diagnosis, and it is towards this direction that the student's interest is guided by the class in Practical Bacteriology.

Particular attention is devoted from the first instance to the technique of various investigations undertaken in connection with ward work. Thus the student himself examines sputum, pus and morbid exudates by various methods to demonstrate the associated bacteria. He is instructed in staining methods and the practical work of culture making, and is, moreover, encouraged to repeat for himself during the intervals between successive classes any observations and experiments previously carried out, in order to equip him for the performance in general practice of those more obvious methods of bacteriological diagnosis which experience has shown are both reliable and valuable. Demonstrations are also given upon the life history of the most important of the organisms which are pathogenic to the human race, and by the study of "pure cultures" an attempt is made to impress the chief characteristics of each upon the mind of the student, whilst the changes such organisms undergo or produce when they gain entrance to the human tissues are carefully emphasised.

Throughout the course considerable stress is laid on the further applications of bacteriology to treatment, including the use of various remedial agents such as sera and vaccines, which have been elaborated in the bacteriological laboratory for the treatment of disease, together with those facts and theories relating to natural and acquired immunity upon which bacteriological therapy is based

5. The Special Departments

THE CHILDREN'S DEPARTMENT

In-Patient Accommodation.—Dr. Cameron has under his care 14 cots in the Children's Ward. On two days in the week, at present on Tuesdays and Thursdays at 2 p.m., Dr. Cameron goes round the ward and gives clinical instruction.

Out-Patient Department.—Children under 10 years of age are seen in the Children's Department at Out-Patients on Mondays, Wednesdays and Fridays from 9.30 until 1 o'clock. Dr. Cameron attends on Mondays at 10 a.m., and Dr. Hampson on Wednesdays and Fridays at 10 a.m., when clinical instruction is given.

The Salomons Centre is for the care of the mothers and children of the Midwifery Charity; attendances at the Centre are made by dressers in the Obstetric Department.

OTO-RHINO-LARYNGOLOGICAL DEPARTMENT

This Department is organised on the unit system. There are two units, one under the care of Mr. Mollison, the other of Mr. Layton, and Mr. Cann is the Assistant Surgeon. Patients are seen in the Out-Patient Department, admitted when necessary to the special wards, Dorcas and Christopher, and returned to the Out-Patient Department. This arrangement allows members of each unit to follow up the cases. Mr. Mollison's firm sees out-patients on Tuesdays and Fridays at 11.30 a.m., Mr. Layton's on Mondays at 9 a.m., and Thursdays at 11.30 a.m.

Dressers are appointed to the respective firms, and have every opportunity of becoming expert in the technique of examination of the ear, nose and throat, and of gaining experience in diagnosis and treatment. Large numbers of school children are seen. Minor operations are performed in the Out-Patient Department; these include, amongst others, operation for the removal of nasal and aural polypi, and of tonsils and adenoids, and for the lavage of the maxillary antrum; these operations are performed under the supervision of the Surgeon or the Clinical Assistant.

Twenty-seven beds and six cots are now allotted to the Department, and each firm operates twice a week. Mr. Mollison and Mr. Layton "take-in" during alternate weeks, and emergencies are admitted under the care of the firm on duty.

THE OPHTHALMIC DEPARTMENT

The Ophthalmic Department of the Hospital is in charge of the two Ophthalmic Surgeons, Mr. Morgan and Mr. Law. They are helped by three Assistants, one House Surgeon and Dressers. The Dressers are appointed four times a year for a period of three months, and assist the Surgeons at Out-Patients and at operations, and are responsible for the recording of the cases both in the wards and at Out-Patients. The Ophthalmic Department is an open field for any student to explore as far as he is willing and able, the amount of clinical work being sufficiently great for him to see all the more ordinary and common diseases of the eye in the space of three months.

The student will soon find that he is quite unable to form any opinion of his own on an ophthalmic case until he has mastered the use of the ophthalmoscope and can readily and accurately decide what is the refraction of the eye, and if the "fundus oculi" is healthy and normal. The theory of retinoscopy can be taught and is simple; the practice, however, requires constant application by the student before he can hope to obtain any sort of facility in it. The difficulties are mainly initial ones, and any time and trouble expended in mastering them will well repay any man in after life when he has qualified and is in practice.

MEDICO-NEUROLOGICAL CLINIC

Advanced Ward Teaching for Post-Graduates and Students is given on Tuesdays at 2.15 p.m.; Drs. Hurst, Marshall, Symonds, Gillespie and Witts meet in Mary Ward for the combined round at which a discussion is held on a series of cases.

NEUROLOGICAL DEPARTMENT

This Department is under the direction of Dr. C. P. Symonds and now provides facilities for a full three months clerkship, which offers excellent opportunities to those who desire practical experience in one of the most difficult branches of medicine. Tuesday and Friday mornings are devoted to Out-Patient work; Dr. Symonds holds a teaching round on Thursday mornings in the Eye Ward, while the Registrar goes round on Wednesdays.

DEPARTMENT OF PSYCHOLOGICAL MEDICINE

Now separated from the Neurological Department and providing a full three months course of Clinical tuition. In addition to Lectures and Clinical Demonstrations held at a mental hospital during the summer term, Dr. R. D. Gillespie is also responsible for a series of addresses on Normal Psychology during the spring session. Out-patients are seen on Tuesday and Friday mornings.

THE DERMATOLOGICAL DEPARTMENT

Out-Patient Days.—Dr. Barber: Mondays, New Cases, 9 a.m. Old Cases, 9.30 a.m.

Dr. Forman: Wednesdays, New Cases, 9 a.m.

Dr. Barber: Thursdays, New Cases, 9 a.m.; Old Cases, 9.30 a.m.

Wards.—There are three male and three female beds in the Eye Wards for Dermatological cases requiring careful supervision or treatment in bed.

Instruction in the diagnosis and treatment of diseases of the skin is given in the Out-Patient Department, and clinical demonstrations on selected cases are held from time to time.

THE GENITO-URINARY AND ORTHOPÆDIC DEPARTMENTS

These two appointments are now taken separately, but have a common House Surgeon. Students acting as Dressers in the Genito-Urinary Department have excellent opportunities of acquiring knowledge which will be useful to them in actual practice and examinations.

The Genito-Urinary Department is under the care of Mr. Thompson, who sees patients on Tuesdays and Fridays. A large variety of cases can be seen. The in-patient beds are for the most part devoted to patients requiring severe operations.

There are 7 male in-patient beds in Christopher, 2 female beds in Queen, and 1 cot in Evelyn.

Students should realise that their attendance at this Out-Patient Department is very necessary, as is evidenced by the very advanced state of disease in which some patients arrive for examination.

The Orthopædic Department comprises a large out-patient clinic and a number of beds devoted to patients suffering from deformity. Out-patients are seen on Monday and Thursday afternoons, and Minor Operations performed on Wednesday afternoon, and in the Out-Patient Department the student will meet with every variety of deformity, congenital and acquired. Considerable facilities are afforded for experience in the relief and cure of all chronic diseases of bones, joints, muscles, etc. Instruction in the principles and most modern practice in the use of appliances, plaster technique, and the more useful forms of Physio-Therapy is given by Mr. Lambrinudi, the Orthopædic Surgeon, and the Registrar. Numerous operations of a minor nature are done, such as manipulations for stiff and painful joints, correction of misshapen and rickety limbs, correction of scoliosis and immobilisation of tuberculous joints.

The in-patient beds are devoted to the most serious operative cases, such as extensive tendon transplantations, correction of malunited fractures, bone-grafting, the making of new joints, etc. Guy's is a pioneer hospital in possessing an excellent workshop for the manufacture of every form of splint and appliance.

It is in the Orthopædic Department that the principles underlying the mechanical disabilities of the limbs and spine are emphasised and their explanation made clear, and the experience to be gained here is invaluable. The great utility of orthopædic surgery has become evident to very many during the war.

THE TUBERCULOSIS DEPARTMENT

The Tuberculosis Department is a reference Department for out-patients suffering from diseases of the chest. Patients attend on two days a week, Thursday afternoons and Monday evenings. For suitable cases arrangements are made for admission to sanatoria. The patients return to the Out-Patient Department after leaving the sanatorium. The Department provides extensive opportunities for studying methods of investigating early and doubtful cases of pulmonary tuberculosis, also for observing special forms of treatment such as artificial pneumo-thorax. A special appointment is now connected with this Department.

THE DEPARTMENT FOR VENEREAL DISEASES

This Department is open from 9 a.m. to 8 p.m. on all week-days, and from 10 to 12 noon on Bank Holidays.

Treatment is carried out for all venereal diseases in women, men and children, and patients may be referred from other departments at any of these times.

Students may attend the male section any evening from 5 p.m. to 7 p.m., and Dressers in the Gynæcological Department may attend the female section on Mondays from 5 p.m. to 7 p.m. or Wednesdays from 2 p.m. to 5 p.m.

Demonstrations are held on Thursdays at 5 p.m. in the Demonstration Theatre in this Department

Dressers are appointed to the Department every three months.

PRACTICAL PHARMACY AND DISPENSING

One of the many important things all medical students must know is how to write a prescription. It may even be necessary for the majority, when qualified, to be able to dispense the same. All students, therefore, would be well advised to acquire as much knowledge of the subject as they can.

The student is taught, practically, how to dispense the different medicinal preparations; he learns to write prescriptions, due regard being paid to doses and incompatibilities.

The course is conducted by the Hospital Pharmacist

THE MASSAGE DEPARTMENT

Massage as a training for women has been taught in England since 1888. Guy's Hospital opened as a Training School for non-resident women in 1913, and is the largest school in the British Isles.

The training extends over a period of 21 months and covers a very comprehensive course in Anatomy, Physiology, Theory of Movement, and Applied Treatments by Massage and Medical Gymnastics for most Surgical and Medical conditions.

Applicants desirous of entering for the course must produce satisfactory evidence as to conduct, character and education, with a minimum age of 18½ years. There are two terms of entry each year, one in March and one in September.

On completion of the training the students enter for an examination arranged by the Chartered Society of Massage and Medical Gymnastics. This body has a membership of over 8,000 on its register. It provides for a Register which is available to the medical profession, and ensures an adequate supply of qualified workers.

The Department.—Patients are given daily treatments during the hours of 1.45 and 4.30 p.m. on Monday, Tuesday, Thursday and Friday, and 9 a.m. and 12 mid-day on Wednesday and Saturday. It is during these hours that visits by the Medical Staff and students are invited. The after-care of those patients who are given treatment is of interest to all medical men. And during the years students are in the wards much can be learnt as to the methods of finally restoring normal function in their patients.

Students interested in this branch of the profession should see the Sister-in-Charge and arrange to see their patients treated.

ELECTRICAL AND ACTINO-THERAPEUTIC DEPARTMENT

The treatments carried out in this Department include the following: diathermy, high frequency, the application of the constant, faradic and sinusoidal currents, radiant heat, and static electricity, treatment by the Finsen and mercury vapour lamps and radiotherapy.

A special Department has, for some time, been opened for artificial sunlight treatment.

A large number of cases are treated in the Department: Chronic joint conditions, nerve injuries, wasted muscles, skin diseases such as ringworm, psoriasis, eczema and rodent ulcer. There are also a large number of cases of malignant disease undergoing treatment with X-rays and radium.

6. Books

ADVICE on this matter is extremely difficult to give, for individual needs are almost as varied as the length of individual pockets, and the adornment of a virgin bookshelf is bound to depend on both these factors. Except in the case of certain essentials for routine work, such as the dissecting room manuals, it is perhaps better to postpone the inevitable visit to the bookseller and first to consult the various tutors and demonstrators in the subjects concerned. They will be more than willing to extend any suggestions made under various headings in this issue of the *Gazette*, and their experience will enable them to advise that blend of old and new best fitted to the individual case.

The rapid advance in medical knowledge unfortunately renders the second-hand book almost worthless except in the case of Anatomy, where the advances, though many and real, are not apt to be so revolutionary as in Physiology and Medicine itself. A Physiological text-book probably becomes out of date in less than a year, a text-book of Medicine in two or three years at least, so that in these subjects at any rate recent editions are essential.

All that is most distinctive in current Guy's teaching is to be found in the *Guy's Hospital Reports*, which contains articles written for the most part by members of the Hospital Staff. The unqualified man has the special privilege of

purchase at a much reduced price, an advantage that he will be wise not to neglect.

A great number of publishers are responsible for medical books, and a just estimation of the rival claims for their various productions is quite beyond the scope of this article. Mr. Humphrey Milford at the Oxford University Press offers a wide range of medical works of uniform excellence in subject matter, binding and printing. Messrs. Churchill publish Taylor and Poulton, Romanis and Mitchiner, the *Recent Advances Series*, and many other well-known works. E. & S. Livingstone, of Edinburgh, present books containing the valuable teaching that emanates from both sides of the Tweed. Baillière, Tindall & Cox are responsible for the large Rose and Carless and a small synopsis series in their well-known *Aids*. Many splendid books are published by John Murray, Heinemann, Ltd., Cassell & Co., Longmans, Green & Co., Macmillan & Co., John Bale, Sons & Danielsson, Edward Arnold, and Constable, while Lewis, of Gower Street, sponsors a number of books in nearly every branch of medicine. Messrs. Lewis also run an excellent medical circulating library, familiar to generations of medical students, which should prove invaluable to the man who wishes to dip briefly into all the latest books. This is assisted by reference to their catalogues, which can, if desired, be purchased. Messrs. Foyle, of Charing Cross Road, specialise in second-hand books and also in those on sporting, as distinct from scientific subjects.

Mr. H. H. Grattan, in the Borough High Street, is the official bookseller to the Hospital, and is able to supply most of the books in common demand over the counter; any others he can be relied upon to obtain as quickly as possible.

The Dental Curriculum

THE Dental Student is supplied at the Medical School Office with the Prospectus, Standing Orders, Lists of Instruments, Calendar and Clubs' Union Book.

These pamphlets should be carefully read in order that acquaintance may be made with the general arrangements of the School and the scope of the work upon which the student will become engaged.

Notices regarding the time and place of Lectures are to be found posted up by the main entrance and at the head of the Main Staircase in the Dental Department, and on the notice board outside the Medical School Office.

Instruments having been purchased at a dental depot, the student should satisfy himself that he has been supplied with all of those described in the Hospital list, and have them inspected by his demonstrator.

It is inadvisable to purchase instruments before they are required. Instruments for prosthetic work are required for the B.D.S. course at the commencement of the second year, and for the L.D.S. course at the commencement of the first year. Clinical instruments are required for the B.D.S. course at the commencement of the fifth year, and for the L.D.S. course at the commencement of the third year.

Among the various depots at which instruments may be purchased are the following: The Amalgamated Dental Co., Broad Street, Golden Square, W.C., and 16, St. Thomas's Street, S.E.1; The Dental Manufacturing Co.,Alston House, Newman Street, W., and 2, Maze Pond, S.E.1; Cottrell & Co., 15-17, Charlotte Street, W.1; L. Porro, Ltd., 33, New Cavendish Street, W.1; The S. S. White Co. of Great Britain, Ltd., 126, Gt. Portland Street, W.1, and 19, Borough High Street, S.E.1. It is a wise precaution to arrange with the company supplying the instruments at very small extra cost to have the handles of all instruments stamped with the student's initials. Students are advised not to purchase equipment or instruments from other students without first referring and submitting same to a member of the Staff.

The course of study for the B.D.S. London covers a period of five years, of which the first year consists of Chemistry, Physics and Biology. The second year is occupied with the study of General Anatomy and Physiology, General Histology and Dental Prosthetics. The study of Dental Prosthetics is continued during the third year, together with Dental Metallurgy. The subject of Dental Anatomy and Physiology, Dental Histology, Medicine, Pathology and Bacteriology constitute the fourth year's work, and the fifth year is occupied by General Surgery (Lectures, Demonstrations and Dressings), Operative Dental Surgery, Orthodontics, Dental Materia Medica, Dental Bacteriology and work in the Conservation Room.

L.D.S. students who come under the New Regulations must pass the Pre-Medical Examination in Chemistry and Physics before they can commence their four years' course. Subsequently, their first term is devoted to Dental Mechanics

and Elementary Anatomy and Physiology, and it is important that the student gets a good grounding in the former at this early stage. During the remainder of the first year the student continues his work in these subjects and takes Part II of the First Professional Examination at the end of the period. In his second year he completes his training in Dental Mechanics, studies Dental Anatomy and Physiology, Normal Dental Histology and Dental Metallurgy, and takes Part III (Special Anatomy and Physiology) of the First Professional Examination at the end of the second term, and Part I (Dental Mechanics and Metallurgy) at the end of the second year.

Third-year students for the L.D.S. commence the Clinical courses with a period of probationary work upon the phantom head. The operative course, conducted by a Staff demonstrator, is very comprehensive. It includes most of the operations that the student will subsequently be called upon to perform upon patients, namely, gold and other fillings, crowns, inlays and the treatment of devitalised and septic teeth. These operations upon the dummy form an excellent ground work in operative dentistry.

Thereafter the course of work consists in holding and diligently carrying out the work of the following appointments : *Probationer Dressership in the Conservation Room; Dressership to the Director of the Conservation Room; *Dressership in the Conservation Room; *Dressership in the Children's Department; Dressership in the Local Anæsthetic Extraction Room; Dressership in the General Anæsthetic Extraction Room; Casualty Dressership; Clerk to Anæsthetist.

In addition, the students prepare for the Second Professional Examination in Medicine, which is taken at the end of the third year of study, and attend the courses in General Pathology, Bacteriology and Medicine. Students are reminded that no course of study for this examination is recognised until Parts I and II of the First Professional Examination have been passed; furthermore, no study for the Final Examination is recognised until the whole of the First Professional Examination has been completed.

During the fourth year, students continue with their appointments in the Conservation Room, Anæsthetic Room and Children's Department, and, in addition, attend the courses of instruction in preparation for the Final Examination, *i.e.*, General Surgery, Dental Surgery, Operative Dental Surgery, Orthodontics, Dental Materia Medica, Dental Bacteriology and Radiology.

A student, apart from those holding the post of Assistant Dental House Surgeon, is not allowed to work in the Conservation Room unless he holds one of the appointments marked *, and application for these appointments must be made by the student quarterly, in March, June, September and December. A helpful pamphlet is available at the Medical School Office, perusal of which will indicate when and for what posts to apply.

An X-ray course is taken by the student in his final year.

The time varies, according to whether the course for the B.D.S. or L.D.S. is being taken, at which a student will come into actual contact with Hospital patients, but he should always endeavour to be punctual in his appointments with them. There is nothing more irritating and annoying to a patient than to be kept waiting unnecessarily; it also delays to a very great extent the easy working of the Department, and is detrimental to the public esteem of the Hospital.

Further, the student should remember that the cultivation of a courteous and gentle manner towards all patients will become in the future probably the greatest asset in his private practice.

Dental students will profit by following the practice of the Special Departments of the Hospital, *e.g.*, Throat and Ear. They will also have numerous opportunities of observing the more remote effects of dental disorders in the General Wards and Out-Patient Department.

Students in difficulties about their work and needing advice are invited to consult the Dean, Sub-Dean, Administrative Dental Officer or any other member of the Staff, who will be pleased to do what they can to promote their interests.

To Those Entering the Nursing Profession

"O WHAT a miracle to man is man!" exclaimed an ancient writer. For those who agree with that statement no profession can be more absorbing and satisfying than that of nursing. If you are really interested in people and their welfare you will find that, as a nurse, you have unlimited opportunities for extending that "proper study of mankind."

In the Preliminary Training School you will make your first acquaintance with the theoretical and scientific aspects of your profession and be initiated into the traditions of Guy's. There, living and working amongst a small circle of people—possibly some of whom, attracted by the reputation of Guy's, have come from other countries—you will have opportunities for making

new and maybe lifelong friendships. This circle will be further widened when you come to live in the Nurses' Home.

On entering the wards, however, you will find yourself for the first time brought into close contact with your main objective—your patients. Some of these, too, may have come from a great distance, although the majority of them live in the immediate vicinity (being colloquially termed "Boro."), and are of the types so cleverly portrayed in the novels of Charles Dickens. How attractive these simple and often ignorant folk can be you cannot appreciate until you have seen them in all their varying characters and moods, with their mingled pathos and humour, their quaint philosophies and their untiring courage in the face of poverty and suffering. As you learn to know them you will gain their respect and confidence. If at any time you have the privilege of working amongst them in their homes you will frequently be touched by the affectionate gratitude which they bear towards "the 'Orspital." Not all of your patients will prove responsive or grateful; some may be surly and appear resentful even of kindness; all will need your skill and help, your sympathetic understanding, and "the infection of a good humour." In your relationship with both your colleagues and patients you will need to develop to the full your sense of sportsmanship, your tact and ingenuity, and your powers of observation.

Outside friends may try to dissuade you from nursing with tales of the drudgery of floor-scrubbing and brass-cleaning entailed in training; they have not followed the recent alterations in the curriculum which make such tales indeed past history. They may also tell you that it is a profession which demands the exclusion of all other interests. This is not the case. It cannot be too firmly stressed that all work and no play makes a nurse a very dull person, and far from being any kind of inspiration to her patients. Realising this, the Nurses' League has made ample provision for your hours of off-duty, with the Swimming Bath in the Nurses' Home, the Tennis Coruts at the Cottage, its Library and the numerous clubs—Operatic, Dramatic, Debating, and the rest—thus catering for every taste.

There is a tendency in some quarters to suppose that any girl who wishes to become a nurse is either a little mad or exceptionally heroic. You will soon discover the fallacy of this when you come to live in hospital; there, if you maintain your sense of proportion, you will find yourself amongst people who, for the majority, are as normal as those found in any other profession.

You must, of course, be prepared to work, and probably harder than you have ever done in your life. It will mean working with your head and heart as well as with hands and feet, and there may be times when you are tempted to envy those of your friends who can close their books or cover their typewriters after office hours. Your material is people, people with needs which are real and insistent both day and night; they cannot be disregarded or neglected. But if you have the true temperament for nursing and a sense of vocation you will realise that, despite apparent unfavourable comparison with other professions, you have chosen a career which, because it is so eminently worth while, will give you the deepest satisfaction and happiness.

As you cross the threshold of the Hospital, you will see at your feet the motto "Dare quam accipere." This can sum up your life's work, as it has done for so many thousands of the sons and daughters of Guy's for more than two centuries.

M. R.

Guy's Hospital Clubs' Union

THE formation of the Clubs' Union, by the amalgamation of the then existing clubs, took place in the summer of 1891. The object of the amalgamation was to further the interests of the different clubs and societies by their mutual support, and to simplify the collection of subscriptions. By the payment of an annual subscription, at present amounting to 5 guineas per annum, a student obtains the privilege of membership of all the constituent institutions, whereas non-members are excluded from participating in the activities of any.

The affairs of the Clubs' Union is under the control of the Clubs' Union Council, consisting of six Staff and six Student representatives. The Constituent Institutions are: Association Football Club, Athletic Club, Cricket Club, Debating Society, Dental Society, the *Guy's Hospital Gazette*, Golfing Society, Hockey Club, Lawn Tennis Club, Pavy Gymnasium, Pupils' Physical Society, Rifle Association, Rowing Club, Rugby Football Club, Sailing Club, Squash Racquets Club, Students' Club and Swimming Club. The Christian Union, the Guy's Physiological Society and the Guy's Hospital Musical Society are at the moment not affiliated.

The ground of the Clubs' Union is within 15 minutes' run of the Hospital (in this respect

we are very fortunate), situated close to Honor Oak Park Station on the Southern Railway (Brighton Section) and close to Crofton Park Station on the Southern Railway (South-Eastern Section). It is nine acres in extent, and is the headquarters of the Guy's Football, Cricket, Athletic and Lawn Tennis Clubs. The Pavilion has recently been enlarged and improved, and hot and cold showers installed, in addition to several fine baths. A ground is provided for the Junior Rugby Clubs and for the Hockey Club at Worcester Park, which is easily reached from Waterloo Station. Members of the Golfing Society may play on one of many courses at specially reduced rates (see Golfing Society notices). The Rowing Club is affiliated to the London Rowing Club at Putney, where members are entitled to all the advantages of that club.

By kind permission of the Matron a swimming bath in the Nurses' Home is available for students on alternate days. Near this is a court for Squash or Fives (the property of the Hospital) and a recently erected squash court (the property of the Clubs' Union). Times may be booked in the College for play on either of these courts. A shower bath and changing room will shortly be provided adjoining the courts.

THE STUDENTS' CLUB

The Students' Club, perhaps the most important section of the Clubs' Union, is housed in the College, where there is now an excellent Catering Company, open only to members of the Clubs' Union. The Pavy Gymnasium is also housed here, where classes are given in Boxing, Fencing and Gymnastics. The Physical and Debating Societies hold their meetings in the College.

Further information about the different clubs can be found in the Clubs' Union Year Book—obtainable at the Medical School Office, and new students are also advised to consult the notice boards in the Colonnade.

Considerable improvements have recently been affected at the ground at Honor Oak Park. The Grand Stand is capable of seating 800 people and the small stands 100 each. A new hard Tennis Court has recently been put down and is open for general use. A considerable sum has been spent upon thoroughly re-draining and returfing the ground, and it is now in excellent condition.

An excellent programme of home matches has been arranged by the Rugby Football Club—*vide* Fixture Cards—and it should be noted that members of the Clubs' Union are entitled to free admission to the ground on these, as on all, occasions, on production of their membership cards.

For many years it has been our hope to effect a reduction in the subscription fees, but when the many privileges are considered, the fee is only moderate. Improvements to the Pavilion have been recently carried out, the ground floor has been completely reorganised, and there are now excellent facilities for changing and baths.

Rugby Football Club

ALTHOUGH the season has already begun, It is still possible to write a few words about our prospects in Cup and Club matches.

To our loyal suporters in and around London we would quietly admit that we were once again denied the honour of bringing the Hospital Cup back to Guy's, but we would console them by saying that it will not be through lack of trying nor for reasons of apathy or unfitness that we do not return the winners next March. In all big matches luck plays a very important part, and it is hoped that the balance will fall on our side once again, even though we may not be in desperate need of its help.

We are able to call on most of last year's XV, although one or two old stagers have departed. T. Morgan, who was Captain two years ago, has now left the Hospital, and R. A. P. Hogbin, who without doubt has had more to do with the success of the team during the past few years than any other individual, has joined his Old Boys' side, who have duly honoured him with Vice-Captaincy. R. J. Drummond is no longer able to fill the all-important role of helping to maintain a solid second row, and A. G. Johnson is unlikely to be able to turn out on the wing. It is hoped that, much as we realise the loss we suffer by their departure, it will not be long before others are found to carry on their good work.

I. G. Robin has been elected Captain, and he is to be congratulated on an honour so seldom given to second-row forwards these days, who, by reason of their position in the scrum, cannot always be to the fore in the open. So much of the success of the scrum depends upon the compact shoving of the second-row men, and it is certain that he will carry out his dutes both on and off the field in a most capable and efficient manner, and in so doing prove an ideal skipper.

J. E. Giesen, who last year probably had his most successful season, is Vice-Captain, and already shows every sign of maintaining his brilliant form. C. S. Darke is again Hon.

Secretary; the Club are indeed very fortunate in having persuaded him to fill this arduous and usually thankless post once more. Last year, besides being one of the hardest workers in the pack, he found time to assist everyone in catching trains most efficiently.

P. C. Alexander and C. G. Wright, who individually and as a combination on the right wing made such a name for themselves last year, will still be able to show us how tries should be scored, and doubtless the English Selectors will find it worth their while to visit Honor Oak Park in the near future and see for themselves. J. van A. Steytler, who in his first year of Hospital football showed such promise at fly-half, is again running into form, and whether it will turn out best to keep him in this position or not, a place will certainly have to be found for him.

R. C. S. Dick, who has already made his name in the Rugger world, has decided to take up his studies at the Hospital, and if he can but settle down with Giesen and Alexander, we can surely boast that we possess the most brilliant three-quarter line in the country. We only require a thoroughly reliable full-back and possibly a fast wing three-quarter to complete one of the best outside divisions the Hospital has had for many years.

From what has been said it might appear that what we need most is a fast and heavy pack of forwards, who know how to shove hard, maintain the shove, and heel quickly. This is probably true; P. Fletcher, a young Cardiff forward, and W. F. Frazer, who played for the London Irish last season, have come here with good reputations, and have so far acquitted themselves well, and there is always the chance that some of the stalwarts of last year's "A" XV will rise to the occasion.

With five of last year's pack still here, and with the abundant new material available, we have only to pick the right team early, so that they will have time to settle down and become thoroughly accustomed to each other, in order to ensure a most successful season.

Many new players are still pouring into the Hospital, and it is intended to run several trial games during the next few weeks. All those who wish to play for a Hospital side this season are advised to append their names as soon as possible on a list to be found on the notice boards in the Colonnade.

Last year saw the formation of a new team, the "C" XV, in an effort to meet the demands of a steadily increasing number of students. It is hoped that this year will see it a fully established and integral part of the Hospital rugger.

During the summer months the Clubs' Union has achieved many improvements. It has approved the hire of a rugger and hockey pitch at the Malden Coombes Sports Ground at Worcester Park, and two further pitches at the University College School Old Boys' Ground at Syon Lane, Osterley Park. Both are equipped with excellent changing accommodation and adequate provision has been made for teas.

Notwithstanding this, every effort is being made to purchase the lease of the five acres of land which adjoins the present rugger ground at Honor Oak Park, and lies behind the Stand. It is intended to divide the ground into a rugger and a hockey pitch, in this way making it possible for the first teams of the rugger, soccer and hockey clubs to play all their home matches at Honor Oak Park. With this end in view plans have already been drawn up for an extension of the present Pavilion, so as to meet the over-crowding that would otherwise occur. It is hoped that the negotiations now being carried on will be completed in the near future, so that the new ground may be put in order for the season a year hence.

The fixture list has been strengthened by new fixtures with The Army, Bedford and Aldershot Services.

For the benefit of those who like to book dates up months ahead, we are due to play St. Bartholomew's Hospital in the first round of the Hospitals' Cup on Thursday, 7th February, 1935.

It is proposed to hold a Dinner once again, and November has again been chosen as the most suitable month. All those who were present last year will agree that it was a most enjoyable evening, and all rugger men, whatever their position in the Hospital, are invited to attend. The date will be announced as soon as possible.

Our thanks are due to Mr. Turner, who filled the post of President so admirably last year. He has now retired from the Hospital Staff, but he has always taken a great interest in the Hospital rugger, and we still hope to see him down at Honor Oak Park.

Mr. Hughes has kindly consented to become the new President, and we hope that he will find time amongst his other duties to see the Hospital XV in action.

We look forward to a most successful season, and wish the best of luck to all XV's and the First in particular.

Association Football Club

A CORDIAL welcome is extended to new students desiring to join the Club. If they will put their names down on the list in

the Colonnade they will be given a game at the earliest opportunity.

The Hospital run three teams, two of which take part in the Inter-Hospitals' Cup Matches. Last season was quite successful, the First Eleven losing only three matches. Of the three lost, one was the Semi-Final of the Hospitals' Cup, being beaten by Bart.'s 3—1 after extra time.

The First Eleven were invited to play in the Southend Charity Cup, which we won, beating the Pier Pavilion Football Club 7—0. We were entertained right royally by the Hospital Cup Committee, and had a most enjoyable time.

The Second Eleven lost the Hospitals' Junior Cup, which we had held for the last eight years. We hope to see both Cups back at the Hospital at the end of the season.

This year the First Eleven have entered for the Senior A.F.A. and London University Cups, as well as the Inter-Hospitals' Cup.

Several attractive home and away fixtures include matches with Casuals, R.A.M.C. (Aldershot), Old Cholmelians, H.A.C., Police College, South Hants Nomads, and various colleges at Cambridge.

Hockey Club

THE Guy's Hospital Hockey Club is starting its new season on a very optimistic note. For the first time in its history there are two grounds, one at New Malden and one at Osterley. There are four XI's officially recognised by the Clubs' Union, and many attractive fixtures have been arranged, including matches at Oxford, Cambridge, Camberly, Dover, etc. We are fortunate in having nine of last year's first XI available, and the total number of the Club is most encouraging. There is a list posted in the Colonnade, and anybody, whether he has played before or not, wishing to play this season should put his name down with the position in which he would like to play.

The first practice game was held on Saturday, the 22nd, at the Osterley ground, and the following are the fixtures arranged for the first XI this season :—

HOCKEY FIXTURES, 1934-1935

1934		*Opponents*	*Ground*
Oct.	13	University College Hospital	Away
,,	17	University College Hospital	Home
,,	20	M.P.C.	Away
,,	24	Reading University	Away
,,	27	Middlesex Hospital	Away
,,	31	Trials with Second	—
Nov.	3	Hertford College, Oxford	Away
,,	7	Woolwich Garrison	Away
,,	10	Teddington II	Away
,,	14	Aldershot Command	Away
,,	17	West Herts	Home
,,	24	London Hospital	Home
,,	28	R.N.C., Greenwich	Away
Dec.	1	R.N. and R.M.	Away
,,	5	University College Hospital	Away
,,	8	Bromley II	Away
,,	12	R.M.C., Sandhurst	Away
,,	15	St. Thomas's Hospital	Home
1935			
Jan.	9	St. Bartholomew's	Away
,,	12	West Herts	Away
,,	16	King's College	Away
,,	19	R.A.F., Halton	Away
,,	26	Merton	Away
,,	30	King's College Hospital	Away
Feb.	2	R.N. and R.M.	Home
,,	6	Woolwich Garrison	Away
,,	9	Leys School, Cambridge	Away
,,	13	Staff College, Camberley	Away
,,	16	R.N.C., Greenwich	Home
,,	20	University College Hospital	Home
,,	23	Sevenoaks	Home
,,	27	Dover College	Away
March	2	Cranleigh School	Away
,,	6	Caius College, Cambridge	Away
,,	9	Enfield	Home
,,	16	Brighton	Away

Cricket Club

THE past season has been, as it is our bounden but unfortunate duty to relate, one of rather indifferent character. On many an occasion we would appear to be better and on top of our opponents, but then the appearance was false and we were rarely the ultimate victors, and usually quite failed to do ourselves any sort of justice.

It was, however, perfectly obvious that the material was available for building, at any rate, a side of good club strength, as was exemplified in the Cup match against St. Thomas's Hospital.

On that occasion we managed to field almost a representative side. Let it be known firstly that we were beaten, but it was an honourable defeat and a very narrow one. This was extremely encouraging, as St. Thomas's, on paper, have one of the best sides in London.

There is plenty of material available, and everybody will wish that the rather lamentable decline in Hospital cricket during the last few seasons will cease to continue. It is a pity that examinations must necessarily interfere, but, even so, if just a shade more keenness were shown on some occasions there would be no cause for worry about the future welfare of the Club.

Lawn Tennis Club

THE Guy's Hospital Lawn Tennis Club have the use of 12 grass and 3 excellent hard courts at Honor Oak Park. The grass courts are usually fit for play in May, when the season really starts, but the hard courts may be used all the year round.

During the season, matches are arranged for three teams, and the First and Second VI's compete in the Senior and Junior Inter-Hospitals' Cups. Both teams reached the finals of these competitions in 1934, but were unfortunately beaten by St. Thomas's in both. Trial games for these teams are held at the end of April, and new talent being required for 1935, the Hon. Secretary will be very glad to hear from new members of the Hospital who would like to play in these trials.

Each season the Lane-Washburn Cup for the Singles Championship of the Hospital is competed for, the 1934 winner being J. E. Giesen, who beat E. P. O. Watson in the final.

Squash Rackets Club

THE Hospital Squash Club was formed last year, and had a reasonably successful season. We won the second division of the Inter-Hospitals' Competition, and were beaten by University College Hospital in the Final. There is one court available for play for any members of the Clubs' Union, and it is hoped that there will shortly be another. The team is chosen as far as possible from the names on the ladder, which will be found on the ground floor below the changing room. Anyone has the right to challenge the player above him on the ladder, and the bottom person may be challenged by any newcomer. If the challenge is not accepted and the match played within a fortnight, the challenger has the right to succeed to the defender's position by default.

There is at the moment a tournament in progress, by which it is hoped to recruit new talent, and in which the Committee is anxious that as many matches as possible will be played, instead of the finalists arriving at their position after a hotly competitive series of walk-overs, as is too often the case.

The Athletic Club

THE Athletic Club is at the moment in a more flourishing condition than it has been for some seasons. And we hope that next season will bring many more first-year men who are interested in athletics in general, and in field events in particular, in which we are rather weak.

The Hospital sends in teams for the University of London Sports, at which this year we won the Thierry Cup, and for the Inter-Hospital Sports. We also run some matches in the summer, in all of which we have been successful this year. The teams are selected after the Hospital Sports, which are held in May at Honor Oak Park. Training facilities are available both at Honor Oak and at the new University track at Motspur Park, where Mr. Guy Butler coaches in the evenings.

Members of the Club may be chosen to represent the University at the Inter-University meeting and at the University fixtures, as well as at the matches of the United Hospitals' Athletic Club. All those who are interested should put their names on the list in the Colonnade at the beginning of the season.

Swimming Club

THE past season has been highly satisfactory. We did not win the Inter-Hospitals' Cup, but an all-round improvement and a general soundness was shown, such as has not been attained in the Hospital for many a year.

At swimming, A. H. Edwards was outstanding; unfortunately he was incapacitated a few days before the Inter-Hospital championships, previous to which he had won the 220 yards scratch race between the British and the Scottish Universities. He also won the 100 yards scratch race between the United Hospitals and Trinity College, Dublin.

Guy's were successful in winning the six-a-side Inter-Hospital Relay Championship in very fast time. Our team consisted of De Gruchy, Walker, King, Power, Palin and Laing.

As regards polo, Guy's were beaten by Bart.'s in the Inter-Hospitals Cup Final 3—2, after a very hard game. Our Cup team consisted of Styer (captain), De Gruchy, Smit, Cook, MacPherson, McCall and Laing.

Previous to the Final we had beaten University College (8—0), London Hospital (8—0), in Cup matches, and in friendlies we had beaten St. Thomas's (8—1), Bart.'s (8—1) and St. Mary's (4—3).

The most outstanding achievement of the polo team was in playing Lewisham, the Kent County champions, to a draw, 3—3.

Sailing Club

A RETROSPECT of the Sailing Club's activities must be a happy one; the Club has had, on the whole, a successful season. The Guy's dinghy has turned out practically at every race, taking second place in the Sherren Cup (an inter-hospitals team race). She won four

races during Burnham week, which must place her well for the Bourne trophy, though the results of this event have not yet been announced.

The Ogilvie Cup, a Guy's Sailing Club event, for single-handed sailing was sailed on Sunday, August 19th, in ideal weather. Four races were sailed for an aggregate of points, and was won comfortably by A. Crook.

The United Hospitals' Sailing Club now has its own headquarters at Burnham. A barge has been converted for use as a club-house in which members will be able to obtain refreshment and sleeping accommodation.

Several members have been cruising during the season, of whom one worthy of mention sailed his yawl, with two other Guy's men, from Bridlington to Burnham—a non-stop run of 260 miles.

Anyone who thinks he might be interested in the Sailing Club can leave in the Colonnade a note to the Hon. Secretary, who will endevaour to give him any information he would like.

The Pavy Gymnasium

THE Pavy Gymnasium is situated in the College and takes its name from Dr. Pavy, F.R.S., by whom it was founded. The upkeep was provided for by his exceptionally generous bequest. It is equipped for boxing, fencing and gymnastics, and has recently been installed with an efficient heating system, while fresh lighting is being considered. Nearby are facilities for baths and showers.

The Annual General Meeting of the Pavy Gymnasium, which is a constituent of the Clubs' Union and therefore open to all members, was held on Tuesday, May 27th. Mr. Mollison was in the chair. The Minutes of the last meeting being read and confirmed, the Hon. Treasurer, Sir Francis Shipway, gave his report. The representatives of the various clubs then gave their reports, and the officers for the following season were elected. The meeting closed with a vote of thanks to the chairman.

Instruction is given in the Gym. in boxing, fencing and gymnastics.

The Boxing Club will start its season on Tuesday, October 9th, in the Pavy Gymnasium at 5.30 p.m.

It is hoped that there will be a large increase in members this year. Last season we were greatly handicapped by lack of support, and were unable to raise a full team for the Inter-Hospitals' Cup.

At present no fixtures have been arranged, but as soon as there is evidence of sufficient active support matches will be arranged.

Our trainer, Mr. Alfred Hewett, has been seriously ill this summer. He is now well again, but will not be able to take any active part in training for some time. His son will take his place in the ring, and Alf himself will turn up on every practice night and direct operations from the ring-side.

All newcomers to the Hospital who are interested in boxing are earnestly requested to come to the Pavy Gymnasium on Tuesday evenings and give their support, so that we can build up a strong team and make a determined attempt to win the Hospitals' Cup.

The Fencing Club.—Instruction is given in fencing on Wednesdays and Thursdays by two instructors throughout the winter. Owing to the interest shown by members last season, fencing was continued throughout the summer. Numerous matches have been arranged throughout the coming season with clubs of varying strengths, the object being to provide all members with the opportunity of fighting in as many matches as possible irrespective of whether they are experienced or otherwise.

The Inter-Hospitals' Competition will take place probably during February. The Cup was won by Guy's last year.

New Members.—All new members are invited to join the Fencing Club. No equipment is necessary at the start, except flannels and tennis shoes. The Club possesses numerous weapons. Towards the end of the season a Novices' Competition is held, the winner having the honour of holding a handsome pewter tankard until the next competition in the following season.

Since a knowledge of fencing was, at one time, a matter of life or death, the technique has been worked out to a far higher degree than in most other sports, and this, coupled with the fact that it gives one an insight, to some extent, into the mentality of one's opponent, gives fencing a charm of its own.

All new members will be cordially welcomed in the Gym. between 4 p.m. and 5.30 p.m. on the days mentioned above should they wish to prove the above statement.

Gymnasium Club.—This Club holds its meetings on Fridays, when the services of an instructor are available. The membership is at present lamentably small, thereby providing an excellent opportunity for new students to take up gymnastics. All students, whether having had any previous experience or not, who feel at all interested are earnestly asked to lend the Club their valuable support. They are assured of a cordial welcome. A competition is held annually for a cup presented by the Clubs' Union to be held for a year. Attempts have been made to arrange matches with other clubs, but have so far not met

The apparatus in the Gym. is fairly extensive and in good order, and may be used at any time. Attention is drawn to the Pavy Gymnasium By-Law No. 3, stating that all apparatus must be put back in its place after use. It is perhaps not too much to ask that this should be observed.

Rifle Association

THE Rifle Association is open to all members of the Clubs' Union.

Open Range Shooting.—During the summer term, from April until the Bisley meeting in July, the Hospital provides ammunition, targets and rifles for those who wish to practise on open range. Towards the end of the season the Inter-Hospitals' and the Armitage Cup competitions take place. The Inter-Hospitals' competition is decided on the result of one shoot, while the Armitage Cup is shot over four stages, usually on consecutive Wednesdays in June. In each stage seven shots to count are fired at three ranges—two, five and six hundred yards. On the last stage of the Armitage Cup competition the United Hospitals' Rifle Association holds its prize meeting, in which valuable trophies may be won. On this occasion Guy's also holds its prize meeting, which may be entered by any member of the Rifle Association. A match against as many members of the Staff as can be inveigled into overcoming their natural modesty in shooting matters is held on the first Sunday in June. This match is looked upon by both sides as being as much a social occasion as a shooting competition.

The Association is affiliated to the London and Middlesex Rifle Association, and members may use its club-house and targets, which are available at all week-ends during the season and once a month throughout the winter for those who are sufficiently keen and hardy. A special cheap fare of 3*s.* return is available between Waterloo and Brookwood on production of a voucher which may be obtained from the Secretary.

Miniature Shooting.—A miniature range is being installed under the Eye Department, and it is hoped that this will be in regular use in a month or so. A competition was entered last season under the American tournament system against the other hospitals, but as the Guy's team had neither rifles, range nor opportunity for practice, it was not strikingly successful.

As a last word it is emphasised that all students will be welcomed both on the miniature and open ranges. The Club is in great need of new members, and all those who think they might gain any enjoyment out of shooting are urged to give it a trial whether they have shot before or not.

Boat Club

GUY'S possesses a boat club which is one of the first clubs ever to be founded. Members automatically join the London Rowing Club and enjoy the privileges of full membership of this Club, and are encouraged to row for the London Rowing Club when not needed by the Hospital. The Club rows from the London Rowing Club's boathouse at Putney.

The member's responsibility ends with paying his entrance fee, as the Clubs' Union pays his annual subscription.

Keenness is much more important, and more likely to turn out a finished oarsman, than previous experience, and this should not be overlooked by prospective members.

We look forward to a new season with most of last year's crew available, and with the added impetus, we hope, of a new boat.

The Christian Union

THE Christian Union was originally started in 1849 by Dr. Habershon in the form of a Bible Class group. In later days the Union was affiliated to the Student Christian movement, but last May the connection was officially broken off and was then made part of the London Inter-Faculty Christian Union.

The purpose of the Union is to unite all those who really profess Christ as their personal Saviour in their witness for Him. The message of the Union is that the Lord Jesus Christ can save and satisfy now and for eternity.

During the term there are weekly prayer meetings at 1.5 p.m. on Tuesdays in the Chapel and Bible Readings at 5 p.m. on Fridays, also in the Chapel. All those who in any way are interested please communicate with R. Y. Taylor (Hon. President) or A. C. Greene (Hon. Secretary).

The Pupils Physical Society, 1934-35

Hon. President.—John Fawcett, M.D.

Hon. Vice-Presidents.—Sir William Hale-White, K.B.E., M.D.; Sir W. Arbuthnot Lane, Bart., C.B., M.D.; A. P. Beddard, M.D.

Presidents.—P. W. Clarkson; R. W. Cope; R. S. Ellis-Brown; F. R. Kilpatrick; D. P. King; J. H. Mayer; W. N. Mann; B. McArdle; C. G. Pantin; I. G. Robin; E. Sayle; S. H. Wass.

Hon. Secretaries.—W. J. Ferguson, F.R.C.S.; E. T. Conybeare, M.D.

The Pupils' Physical Society of Guy's Hospital is an old and honoured institution. With some such trite tag as this countless secretaries have introduced the Society to the notice of new students entering the wards of Guy's Hospital. Forty years ago, young men would present their papers to the Society with a similar remark, and add that they felt honoured to be allowed to read their papers before so learned a body. The odd thing is that what they said was true; honoured they were, and old and learned is the Society.

I have this evening been reading through the Minutes, as they are written down from 1885 onwards. By doing this I was impressed with the continuity of tradition which has existed through that time and doubtless from times still earlier. The Physical Society has a character of its own such as is only attained by the exercise of much thought and effort on the part of its officers, those who have shown cases and read papers.

In these Minutes are reflected the history of Medicine during the past 50 years, the changes which have taken place in medical training, even the changes in the mode of life of students and of Staff. Illuminating flashes fall from time to time on great characters of the past who exist for us as names only: Samuel Wilks, William Osler, Frederick Taylor, E. H. Starling—and most of those whose names figure to-day on the honorary and consulting staff stand out for a moment as having held office, read a paper, or taken part in a discussion of the Society. The scene changes, the names change, but throughout runs the thread of continuity.

In looking through the programmes of the Society, one is struck by the fact that from 1885 to 1888 a paper was read on eleven of the twelve occasions the Society met annually. In 1889 it was suggested that clinical meetings should be held more frequently—every third meeting. Those were spacious days, when members readily transferred their views to paper and flocked to hear each other talk. In those days, too, members of the Society paid five shillings subscription, and in 1888 the Minutes inform us that ninety of them did so, though I notice the secretaries' tick against the names of those who paid is sometimes absent.

It is of interest to compare the titles of papers read in the eighties with those of more modern times. "Empyema," by F. Heatherly, "Puerperal Eclampsia," by G. Rowell, "Diabetes," by H. J. Campbell, were subjects in the programme of 1886-87. Any of these might form the subject of a paper to-day, but how differently would they be treated. Occasionally a paper is read which throws some light on the prevailing subjects of medical interest at the time. "Hydrophobia" was the title of C. J. Whitby's paper in 1886, just a year after Pasteur had successfully treated his first case. "Diphtheria," by W. C. C. Pakes, was the subject of a paper read in 1894-5 at the very time when Roux and Behring were carrying out their pioneer work with the use of diphtheria antitoxin. In 1911 a discussion on "Bone-Setting" was opened by Mr. (now Sir) Arbuthnot Lane—the title reminds one of the revolutionary changes in bone-surgery that had a short while before been introduced by Mr. Lane himself.

Throughout the first half of the Minute Book are scattered letters from Sir Samuel Wilks, the honorary president for many years. In reading these letters one cannot fail to be impressed by the sincere love he had for all things connected with Guy's, and especially the Physical Society. In 1900 he replies to the then secretary, Mr. Bellingham-Smith, expressing his willingness to take the Chair at the opening meeting, but modestly suggests that a younger member of the Staff should be appointed in his place. "If anyone could give me a hint by saying that a change was desirable," he says, "I could send in my resignation." No hint was given, however. In 1907, in a further letter, he again suggests that a younger man be chosen and at the same time mildly reprimands the secretary for not having provided him with a paper of the proceedings to which he could refer, on the occasion of the opening meeting the previous year. The last reference to Sir Samuel is made on the occasion of the Conversazione with which the Society opened its session in October, 1910. This was a great occasion; the function was held in the new Medical School Buildings still uncompleted, and on this occasion many of the oldest members of the Staff who represented the past era in medicine met with those whom we now know as senior members. Thus Sir Samuel was in the Chair, "supported," as the *Gazette* report says, by Drs. Parry, Goodhart, Taylor and Savage, vice-presidents. Drs. Hale-White and Lauriston Shaw were still on the Staff, as was Sir Charters Symonds and all were present, and of those better known to us were Messrs. C. H. Fagge, Eason, Mollison, Bellingham Smith, Hopson, Dowsett and Aubrey.

Dr. Eyre showed some "very fine slides and a series of exhibits showing the various stages of the Wassermann reaction," and gave a "clear account of the meaning of the test and the method of carrying it out to an interested crowd." Dr. Price Jones showed a Burker's modification of the Thomas Zeiss Hæmocytometer, and Dr. Ryffel

demonstrated " some clinical methods." On this occasion Sir Samuel Wilks brought down his diploma of qualification signed by Liston and others in 1847. Is it too late to hope that some member of the Staff, who still remembers the earlier generation, their characters, their habits and idiosyncrasies, should read a paper to the Society about them, before they and the type of medicine they represented are forgotten? Sir Charters Symonds delivered an inaugural address in 1922 entitled, " Some Old Surgeons and their Writings," from Chesledon of St. Thomas's (1718-1738) to Henry Howse (1870-1902).

One other meeting should be mentioned as of special importance. This was held on October 21st, 1905; the Society was addressed by Sir William Osler, and was the first occasion on which he spoke in public in this country since his appointment to the Chair of Regius Professor of Medicine of Oxford. The subject of this address was the life and works of Sir Thomas Browne, born just three hundred years before.

These details throw some light on the Pupils' Physical Society in the past. It fills the same need now that it filled a hundred years ago when it was founded on its present basis. It offers an opportunity for those to whom Medicine (and the word is used in the comprehensive sense, which includes Surgery) is something more than a mere means of existence, for those who desire to know more than is necessary merely to get through examinations—in short, for those for whom Medicine is still an Art.

1934. *Programme*, 1934-35.

Thurs., Oct. 11	8 p.m. Opening Meeting. Paper by P. P. Laidlaw, Esq., F.R.S. " Experimental Influenza." Chairman: Dr. Fawcett.
Thurs., Oct. 25	8 p.m. Clinical and Pathological Meeting. Chairman: Mr. B. McArdle.
Thurs., Nov. 8	8 p.m. At Guy's Hospital. Joint Meeting with Medical and Physical Society of St. Thomas's Hospital. Chairman: Mr. I. G. Robin.
Thurs., Nov. 22	8 p.m. Paper by Mr. Mann. Chairman: Mr. R. W. Cope.
Thurs., Dec. 6	8 p.m. Clinical and Pathological Meeting. Chairman: Mr. F. R. Kilpatrick.
1935.	
Thurs., Jan. 17	8 p.m. Clinical and Pathological Meeting. Chairman: Mr. S. H. Wass.
Thurs., Jan. 31	8 p.m. Joint Meeting with Guy's Hospital Physiological Society. Paper by Mr. J. H. Mayer. Subject to be arranged. Chairman: Mr. W. N. Mann.
Thurs., Feb. 14	8 p.m. Paper by Prof. G. P. Wright. " The Decline of Phthisis Mortality in England." Chairman: Mr. D. P. King.
Thurs., Feb. 28	8 p.m. At St. Thomas's Hospital. Joint Meeting with the Medical and Physical Society of St. Thomas's Hospital. Chairman: Mr. C. G. Pantin.
Thurs., Mar. 14	8 p.m. Paper by Mr. Sayle. Chairman: Mr. P. W. Clarkson.
Thurs., Mar. 28	8 p.m. Clinical and Pathological Meeting. Chairman: Mr. R. S. Ellis-Brown.
Thurs., April 11	8 p.m. Reading of the Treasurer's Prize Essay. " The Significance of High Blood Pressure." Chairman: Mr. J. H. Mayer.

Guy's Dental Society

President.—E. B. Dowsett, Esq., D.S.O., L.R.C.P., M.R.C.S., L.D.S.

Vice-Presidents.—Messrs. Doubleday, Bulleid, Malleson, Rix, Pritchard, Cutler, Hooper and Warner.

Hon. Secretary.—E. B. Briault.

Hon. Treasurer.—G. E. J. Pearce.

Dental Correspondent.—D. E. Holdway.

Committee.—

Any Year Representative	F. A. Rogers
4th Year Representative	R. S. Wells
3rd Year Representative	W. A. Hawkins
2nd Year Representative	C. M. W. Debenham
1st Year Representative	E. P. Cutler

THE principal aim of the Society has remained unchanged from its inception 39 years ago. The vigorous discussion and dissemination of knowledge on all subjects dental by all members of the School is our constant aim. Every student is, *ipso facto*, a member of the Society, and is free to present his personal problem or point of view during the discussion which follows all papers. The papers are given by students and eminent members of the profession; members of the staffs of other hospitals are to be invited to read papers before the Society during the coming session.

The following papers were given during the season 1933-34:—

1. " The Dental Profession," by A. Bulleid, Esq., M.R.C.S., L.R.C.P., L.D.S.

2. " Some Common Varieties of Gingivitis," by L. B. Holmes, Esq.

3. " Observation," by L. J. Bailey, Esq.
4. " Bridge Work," by C. I. Hagger, Esq.
5. " Extractions in Orthodontics," by R. E. Rix, Esq., M.R.C.S., L.R.C.P., L.D.S.
6. " The Value of Radiography in Dental Practice," by E. S. Venning.
7. " Sensitive Dentine," by R. L. V. Henderson.
8. " Mouth Ulceration," by K. E. J. Fletcher.
9. " The Bacteriological Aspect of Gingivitis," by C. S. Henderson, Esq., L.D.S.
10. " The Royal Naval Dental Service," by Surg. Lt.-Com. D. L. Simpson, R.N.
11. " Recent Research on Cementum," by W. Stewart Ross, Esq., L.D.S.
12. " Notes on the Use and Technique of General Anæsthesia in Dental Surgery, with Special Reference to Evipan," by A. D. Marston, Esq., M.R.C.S., L.R.C.P., L.D.S.

There were also the following Casual Communications :—

1. " A Case of Unsuspected Difficult Extraction," " A Strange Case of Uneruption," by E. H. Sampson.
2. " Unusual After-Effects of a Mandibular Injection," by D. A. Greensted.
3. " Self-Inflicted Corrosive Burns of the Mouth," by J. W. Hallam.
4. " Prevention of Septic Sockets," by C. I. Hagger.
5. " A Case of Congenital Dental Deficiency," by H. C. Davies.

The meetings are held at 5.15 on Tuesday evenings in the Anatomy Theatre, after tea served in the Dental School at 4.15. The Annual Dinner, which attained record proportions at the " Criterion " last year, will be held at the May Fair Hotel in March, 1935.

The first meeting of the present session will be held on October 2nd, when the President, E. B. Dowsett, Esq., will give a paper on " The Treatment of the Patient."

Every member of the Dental School, whether a first-year man or about to qualify, may profitably attend these meetings, the spoken word being notoriously more forceful than the written.

The Debating Society

EVERY member of the Clubs' Union is also a member of its oldest constituent society—the Debating Society.

Meetings of this Society are held at least once a month during the Autumn and Spring terms. They are intended to foster freedom of expression upon subjects other than medicine; indeed, anything whatever may be debated, with the single exception of religion.

It is by no means a small or superfluous asset nowadays to be able to talk coherently while standing on one's feet in public. And the capacity for logical exposition does not come easily to the unpractised. Moreover, the exercise of battling in words is not without great qualities of entertainment.

This year it is hoped that the Society will produce a sound team of speakers able to give and accept challenges for debating with other colleges. But for this purpose more general keenness is wanted, and, in particular, some fearless volunteers from the younger members of the Hospital.

The Physiological Society

President.—W. R. Spurrell, F.R.C.S., M.S.

Vice-Presidents.—E. C. Hughes, O.B.E., M.Ch.; T. B. Johnston, M.B., Ch.B.; E. P. Poulton, M.D.; J. A. Ryle, M.D.; J. M. H. Campbell, M.D.; T. J. Evans, M.A.; G. Marshall, O B.E., M.D.; A. C. Hampson, M.C., M.D.; F. N. Doubleday, L.D.S.; R. D. Gillespie, M.D.; P. M. F. Bishop, B.M., B.Ch.; R. C. Brock, M.B., F.R.C.S.; E. A. M. Lintott, M.D.; D. E. Denny-Brown, M.R.C.P.; C. P. Blacker, M.C., D.M.; C. N. Pitt, Ch.M.

Secretary.—H. B. Cardew.

Treasurer.—D. Hankey.

Committee.—J. M. Brown, E. Sayle, E. Dunstan, D. G. Graham-Brown, C. W. Kesson, C. R. Morgan.

IT is impossible to think of the Physiological Society except in terms of its founder and moving spirit for 32 years. For those who never knew him, let it here be said that Professor Pembrey was at once one of the most eminent physiologists of his time, and a most human and lovable personality.

His special creation at Guy's was the Physiological Society, founded by him in 1901, and during the three decades he presided over its meetings he was an unfailing source of encouragement and stimulation to its members.

He loved controversy—controversy for its own sake, for he understood that this pastime is one that appeals to the inquiring mind, and that only those who are endowed with a fair measure of this

inquisitive faculty can succeed in the biological sciences.

In 1933 he retired from his work at Guy's, and in July of this year he died—a great loss to the hospital and to the Physiological Society.

However, the work he started will continue, and, under the able Presidency of Mr. W. R. Spurrell, the Society has already had a very successful 1933-1934 session.

The papers dealt with a variety of subjects—among them "Respiratory Pigments," "Memory," "Puberty" and "Fertilisation."

All of these are of interest, not only to those studying physiology, but to first-year men as well, for human physiology deals only with a special case of animal life in general.

Papers are read, and these are followed by discussions, which are often of a very lively character. The chairman for the day is usually an expert in the particular subject.

Each meeting is preceded by a tea, for which members pay 3*s.* 6*d.* a year, for the Physiological Society is not affiliated with the Clubs' Union, and has to balance its own budget without subsidy.

Shortly before his death the late president endowed an annual prize, to be awarded to the best paper read during the year.

The term "physiology" is used in its widest sense, and the subjects discussed range from the function of some particular organ to the general applications of physiology to social problems.

Papers to be read shortly deal with "The Reticulo-Endothelial System" and "Physiological Reactions to Music."

It is hoped that a large number of those entering Guy's this autumn will join its Physiological Society.

Guy's Hospital Musical and Operatic Society

THE Guy's Hospital Musical and Operatic Society is one of the non-affiliated societies, and, largely owing to the fact that the Musical Society is incorporated with the Nurses' Choral Society, affiliation to the Clubs' Union is not possible. The Society, therefore, depends financially upon voluntary subscriptions, and the support which it receives from its operatic performances. Membership is open to all members of the Medical, Dental, Nursing, Massage and Administrative Staff, on payment of an annual subscription of 1*s.* from female members and 2*s.* 6*d.* from male members.

The Society was founded in 1903 by the union of the Nurses' Choral Society and the Students' Glee Club, whose activities for many years consisted in giving musical concerts. The Society was revived after the war, but not until 1924 was it decided to abandon the old custom of an annual concert and to substitute in its place an opera. The Society made a very modest start by producing "Trial by Jury," and, owing to its wonderful success, the Society entered on its long series of Gilbert and Sullivan's comic operas, of which eight have been produced.

Although faced with many difficulties, particularly in finding new principals to take the places of old favourites, there is every reason to believe that the quality of our next production will be well up to the high standard already attained. In spite of these constant changes, the Society holds a very prominent position in amateur theatricals.

Members are now very busy rehearsing for "Ruddigore," which will be produced at the Fortune Theatre from November 28th to December 1st next. In taking the Fortune Theatre the Society is breaking new ground and entering on its most ambitious programme since commencing this series of operas. It is hoped that everybody interested in the welfare of hospital music will give their support to a society which has proved itself as successful as any in the hospital.

Rehearsals are being held every Thursday evening at 8 p.m. in the Probationary Room of the Dental School under the direction of Mr. Herbert Y. Templeman, Mr. Harry Leffler and Mr. R. A. Swinhoe. A hearty invitation is extended to all who would like to take part; there is still time, and a special appeal is made to newcomers who are assured of a warm welcome.

There is an orchestral side of the Society, and instrumentalists are specially invited to join. Any further information can be obtained from the Honorary Secretaries, Mr. W. Hughes, Mr. D. H. Mackay and Mr. G. A. R. Winston.

Guy's Hospital Chapel

THE Chapel at Guy's certainly does not thrust itself ostentatiously upon the notice of the newcomer, but it exists nevertheless. Those who boldly open the door under the clock in the front square will find it. It is embedded in Matron's House, which flanks it on either side and covers the roof as well. It is square, without an apse, and with galleries round three sides,

being technically described, we believe, as a "drawing-room Chapel of the Georgian Period." An impression of a sort of apse, indeed, has been artificially and undesignedly created by the erection of an organ in one corner and a vestry in the other. This has the disadvantage of partially obscuring the design of the Colonnade, which was clearly intended to be a feature of the building. It is possible that these encroachments will be removed in the execution of a scheme of redecoration and improvement which is afoot. The stained glass windows commemorate William Hunt, the founder of the Medical Wards. The mosaics and panels are a memorial to all those who have died in the Medical Service of the Hospital since 1867.

Various others are recalled by brasses in various parts of the Chapel and in the Lobby. The most interesting of these are those of W. E. Gladstone, a Governor for 63 years, Sir Astley Cooper and Sir William Gull. But the best known feature of our little Chapel is the really noteworthy monument to our Founder, Thomas Guy, which faces the altar. Here is Guy in Court dress of the period relieving a suffering man, while in the background is to be seen an actual model of the Quadrangle and Colonnade Steps outside, with porters engaged in stretcher bearing. The inscription on the monument is well worth studying as a good example of the somewhat florid testimonials which characterised such literature in the eighteenth century, and as a record of certain facts apt to be forgotten.

An extensive crypt contains the Founder's tomb, for the remains of Thomas Guy were translated across the street from their original resting place beneath St. Thomas's, where they lay from 1725 to 1780. Among the other tombs in the crypt are those of William Hunt, Sir Astley Cooper and certain Governors, Surgeons and Physicians of bygone days. Of those who served the Chapel the greatest name is that of Frederick Denison Maurice, Chaplain 1836-46, portraits of whom will be found in the Lobby. A list of the services in the Chapel will also be found there, and the Chaplain is always glad to supply further information. Needless to say, the Chapel and its Services are always open to all members of the Hospital and Schools.

Correspondence

True Copy of a Letter to an I.M.S. Colonel

To—Inspector-General of Civil Hospitals,
Punjab, Lahore.

Sir,

With due respect and humble submission I beg to lay the following humble suggestion about the P.C.M.S. selection :—

1. Out of several hundred candidates who have applied for, every candidate produces good certificate, good academic career or at least good means of approaching the members of selection board. But there are very few who are good sportsmen, who besides showing good academic career have spent some time in sports.

2. Mere book reading is no criterian for a best man, as an idiom "a sound body has a sound mind" requires that a Medicalman should be a personified health and sport, for Æsculapian (god of Medicine) and Hygea (godess of Health) are the patrons of this profession.

3. About sportsman celebrated Mathew Arnold writes, Battle of Waterloo was won at Rugby (a famus school of England), *i.e.*, this school produced sportsmen and generals like Iron Duke —Duke of Wellington who crushed a more disciplined forces of Nepoelian. Not once but many a time the sportsmen have been the selected best of the world.

A sportsman is ever loyal and duteous—an assimilated rule from field sports.

A sportsman is free from prejudice, ever concious of his work. In fact, sincerety in hardwork and character are the two main qualities of a sportsman, and these incidently are the key to sucess in life.

As Henery Newbolt says in "Torch of Life," character of a sportsman :—

"'Tis not for the sake of the ribboned coat
Or to command respect or a season's fame,
But the Captain's hand on the shoulder smote—
Play up, play up, and play the game."

In student life sport is primary and for a medical man health is essential. He who is in comfort can serve best, a sickman can't be of help even for his own existence.

It is my humble suggestion that as the bookworms are plenty the rare community of sportsmen should be encouraged and be given concession in the selection, so that they can be of some material help to the general masses.

The sports career should be carefully consulted and should be taken into consideration along with the academic merits.

Unfortunately, I have been checked out in the preliminary selection, but being a sportsman, let me give my humble suggestion for your kind perusal for my selected sportsman brethren, so that if it cannot help me, at least it may help to others.

Yours obediently,
"One of the Unlucky
Medical Graduate who fell much."

"Oxygen Therapy"

To the Editor of the GAZETTE

SIR,—In my lecture on "Oxygen Therapy" published in your issue of September 1st last, page 351, I omitted, in the hurry of preparation, to state that the theoretical part of the subject at the beginning of the article was the result of collaboration with Dr. Argyll Campbell, of the National Institute for Medical Research, and I am indebted to him for Fig. 1, which summarised in pictorial form his work of the past ten years on oxygen pressure in the tissues, already published in various volumes of the *Journal of Physiology*. I wish to repair this omission as soon as possible and to thank him for his help.

Yours, etc.,

E. P. POULTON.

25, Upper Wimpole Street,
W.1.

Front Surgery Substitutes

To the Editor of the GAZETTE

SIR,—An announcement has appeared on the Upper Fifth notice board. It appears that in in the future no boy at school can appoint a substitute on Front Surgery without the approval of the prefect on duty—otherwise he will be reported to the head master.

Can you tell me what punishment will be inflicted upon any boy who disregards this new rule? Will he be "gated" for the rest of the term? Will he receive corporal punishment from the house-master? the head master? the prefect? Or will he merely have to write 1,000 lines?

Anyway, who is the cad who sneaked?

Yours, etc.,

SENIOR BOY.

Bromley's House,
St. Aguytha's.

Medallists and Prizemen, 1933-34

MEDICAL SCHOOL

Open Junior Science Scholarship (£100)—Harold Ernest Moody, Leslie Frederick William Salmon, bracketed equal

Confined Junior Science Scholarship (£100)—John James Davis.

Epsom Scholarship (entitling the holder to free Medical education)—Allan Thomas Marsh Roberts.

Junior Proficiency Prizes—Lewis Charles Thomson (£20), Myer Levy (£15), Maurice Roy Woods (£10).

The Hilton Prize for Dissections—John James Davis, prize; Daniel Idris Evans, certificate.

The Michael Harris Prize for Anatomy (£10)—Lewis Charles Thomson, prize; Bernard George Albert Lilwall, Abraham Abe Shein, certificates.

The Wooldridge Memorial Prize in Physiology (£10)—Myer Levy, prize; Hugh Alexander McDonald, Maurice Roy Woods, certificates.

The Golding-Bird Gold Medal and Scholarship in Bacteriology (£29)—John Eber Spalding, medal and scholarship; George Oliver Jelly, certificate.

The Golding-Bird Gold Medal and Scholarship in Obstetrics and Gynæcology (£29)—John Ronald Forbes, medal and scholarship; Martin James Harris, certificate.

The Beaney Prize for Pathology (£34)—William Neville Mann.

The Treasurer's Medal and Prize for Clinical Medicine—William Neville Mann, medal and prize; Charles Guy Pantin, certificate.

The Treasurer's Medal and Prize for Clinical Surgery—William Neville Mann, medal and prize; George Oliver Jelly, certificate.

The Charles Oldham Prize in Ophthalmology (£30)—William Neville Mann.

University Entrance (British Universities) Scholarships—Robert Henry Stewart Thompson, scholarship (£100); Richard Charles Neville, exhibition (£60).

DENTAL SCHOOL

Open Junior Science Scholarship (£160)—Denis Walter Bugg.

Open War Memorial Scholarship in Arts (£160)—John Anthony Cotterell.

Second Year's Prize in Dental Subjects (£10)—John Clifford Robertson.

Prize in Anatomy and Physiology for Dental Students (£10)—Paul Frederick Briant Gillett.

Prize in Medicine and Surgery for Dental Students (£10)—Roy Furley Pusey.

Newland-Pedley Medal and Prize for Operative Dentistry—Ronald John Gwynne Hayton-Williams.

Final Year's Prize in Dental Subjects (£10)—Henry Coulson Arthur Weighell, prize; Clifford Maxwell Beales, Ralph Louis Vincent Henderson, certificates.

Entry of Students, October, 1934

Medical

Name	School or College	Year
Baelz, O. H. E.	Dulwich College	2nd Year
Barbour, M. M.	Mill Hill	1st M.B.
Beales, G. H.	Haberdasher's Aske's (Hampstead)	1st M.B.
Beazeley, A. A.	St. Paul's and London Hospital	4th Year
Birks, P. H.	Radley College	Pre-medical
Bloom, A.	The King's School, Chester	1st M.B.
Bonham, M. A. W.	Dulwich College	1st M.B.
Boveri, R. W.	Munich and Geneva Universities	4th Year
Bowen-Jones, J. A.	Epsom College	2nd Year
Box, A. W.	St. John's College, Cambridge	4th Year
Bradley, A. R.	Royal Grammar School, Worcester	2nd Year
Braithwaite, J. V.	St. John's College, Cambridge	3rd Year
Bulow, J. E.	Epsom College	1st M.B.
Bunn, H. W.	Kingswood College, Grahamstown, S.A.	1st M.B.
Carter, D. M. F.	Downside School	1st M.B.
Clayton, R. B.	Cheltenham College	1st M.B.
Coffey, B. N.	Wimbledon College	1st M.B.
Coffey, S.	Wimbledon College	1st M.B.
Cole, C. K.	Eastbourne College	1st M.B.
Cole, S. N.	Dulwich College	1st M.B.
Davies, E. R.	Steyning Grammar, Sussex	1st M.B.
Davis, E. I.	Emmanuel College, Cambridge	3rd Year
Dick, R. C. S.	Clare College, Cambridge	4th Year
Dismorr, P. C.	Felsted College	1st M.B.
Drew, A. J.	Ipswich School	1st M.B.
Dunn, C. H.	Eastbourne College	Pre-medical
Erulkar, J. A.	Epsom College	1st M.B.
Evans, M. L. H.	King's School, Canterbury	Pre-medical
Fletcher, P.	Douai School	1st M.B.
French, E. B.	St. John's College, Cambridge	4th Year
Fung, O.	St. Mary's College, Trinidad	1st M.B.
Greenburgh, H.	Plymouth Technical College	2nd Year
Guilfoyle, J. A.	Calabar High School, Jamaica	1st M.B.
Halamandres, C.	University of Witwatersrand	Pre-medical
Harrison, W. R. L.	Epsom College	2nd Year
Hartley, J. L. G.	Cranleigh	1st M.B.
Hinds, S. W.	King's School, Canterbury	1st M.B.
Horton, R. E.	Haberdashers' Aske's	2nd Year
Houston, J. C.	Mill Hill	1st M.B.
Jenkins, J. T. M. C.	Dauntsey's, Wilts.	Pre-medical
Kennedy, G. C.	County Secondary, Workington	1st M.B.
Kreiser, H. A.	Dulwich College	1st M.B.
Lane, O. G.	King's School, Canterbury	2nd M.B.
Lane-Roberts, A. G. H.	Charterhouse and McGill University	Pre-medical
Lewin, D. C.	Tonbridge	2nd Year
Liddle, J. S.	St. Peter's, York	1st M.B.
Llewellyn, O. P.	Downing College, Cambridge	4th Year
Lunn, H. F.	Berkhamsted	2nd Year
McCarthy, D. P. B.	City of London	2nd Year
McNeil, N. L.	County Intermediate School, Llangefni	2nd Year
MacVicar, G.	Christ College, Brecon	1st M.B.
Meredith, D. E.	Grammar School, Dolgelley	1st M.B.
Myburgh, A. L.	University of Cape Town	4th Year
Needham, E. J. A.	Rugby	1st M.B.
Norman, C. M.	Royal Naval College, Dartmouth	2nd Year
O'Gorman, G.	Wimbledon College	1st M.B.
Osborn, D. A.	Derby School	2nd Year
Pitt, W. E. R.	Beaumont College	1st M.B.
Price, T. M. L.	Epsom College	2nd Year
Roberts, D. B.	Downing College, Cambridge	3rd Year
Roden, W. E.	Downing College, Cambridge	3rd Year
Rushforth, A. F.	Watford Grammar	1st M.B.
Scarlett, J. H. S.	Kent College, Canterbury	1st M.B.

Name	*School or College*	*Year*
Shields, N. P.	Emmanuel College, Cambridge	3rd Year
Shrapnell, M. K. C.	Colfe's Grammar School	2nd Year
Smith, L. E.	Ipswich School	2nd Year
Spencer, W. H.	Arnold School, Blackpool	1st M.B.
Stonehouse, W. P. B.	Downing College, Cambridge	4th Year
Stratton, A. B.	Leighton Park School, Reading	1st M.B.
Stubbs, J. G.	Oundle	1st M.B.
Taylor, A. W.	Leeds University	3rd Year
Thomas, G. E.	St. Dunstan's College	1st M.B.
Thomas, H. A.	Wycliffe College, Stonehouse	1st M.B.
Thompson, R. H. S.	Epsom and Trinity College, Oxford	4th Year
Ticehurst, R. G.	Tonbridge and St. John's College, Cambridge	4th Year
Venning, H. D.	Wycliffe College, Stonehouse	2nd Year
Wadia, R.	Wimbledon College	1st M.B.
Warner, J. M.	Berkhamsted	1st M.B.
Waters, I. R.	Llandovery College	1st M.B.
Watson, J. S. F.	St. John's College, Cambridge	4th Year
Watts, J. A. E.	Wellingborough	1st M.B.
Wheate, H. W.	Dulwich College	1st M.B.
Williams, J. R. D.	King's College, Taunton	1st M.B.
Willcox, D. R. C.	Kinmel School, Denbigh	1st M.B.
Ziervogel, C. F.	Stellenbosch and University of Cape Town	3rd Year

Dental

Name	*School or College*	*Year*
Athey, W. T.	Hymer's College, Hull	Pre-medical
Balean, O. B.	Epsom College	1st Year
Baxter, A. E.	Epsom College	Pre-medical
Baxter, P.	The King's School, Peterborough	Pre-medical
Butcher, W. F. A.	Downside School	1st Year
Breakspear, E. F.	Southend-on-Sea High School	1st Year
Clark, T. L.	Hymer's College, Hull	3rd Year
Coats, B. M. B.	Dover College	1st B.D.S.
Cowles, C. H.	Stonyhurst College	Pre-medical
Cross, W. G.	Lancing College	1st B.D.S.
Cutmore, R. F.	Eggar's Grammar School	Pre-medical
Deverall, S. E.	Dulwich College	Pre-medical
Dorr, G. W.	Wellingborough	Pre-medical
Douglas, D. M.	Merchant Taylor's School	1st B.D.S.
Enos, I. O.	Ardwyn School, Aberystwyth	1st Year
Forbes, A.	Hilton College, Natal	Pre-medical
Fuller, G. C.	Westcliff High School	Pre-medical
Goldman, J. R. L.	Swansea Grammar School	Pre-medical
Gunson, G. W.	Oakmount Boarding School, Arnside	Pre-medical
Hargreaves, W.	Oakmount Boarding School, Arnside	Pre-medical
Harries, R. H.	Quernmore School, Bromley	Pre-medical
Heesom, F. E. B.	King's School, Canterbury	Pre-medical
Kennedy, R. D.	Sutton Valence	Pre-medical
King, H. B.	Ampleforth College, York	1st Year
Kinghorn, A.	Highgate	Pre-medical
Lole, K. B.	St. John's, Leatherhead	1st B.D.S.
Midgley, N. M.	St. Edmund's, Canterbury	1st B.D.S.
Morey, L. G.	Cranleigh	Pre-medical
Pattisson, K. S.	Ryde School, I.O.W.	Pre-medical
Perren, O. N.	Forest School, Walthamstow	Pre-medical
Roberts, R. K.	Tonbridge	Pre-medical
Rogers, A. J.	Blundell's	1st Year
Sawyer, G. W.	Sutton Valence	1st B.D.S.
Stevens, R. S.	St. Paul's	1st Year
Sumsawaste, C.	Technical College, Brighton	1st B.D.S.
Trick, W. L.	Neath Intermediate	2nd Year
Truscott, J. W.	Boys' High School, Pretoria, S. Africa	Pre-medical
Wakeford, L. A.	Taunton	Pre-medical
Wallis, L. T.	City of London	Pre-medical
Whittall, G. M. A. M.	St. Edmund's, Canterbury	Pre-medical
Woodward, H. A.	Dartford Grammar	Pre-medical

Hospital Information, etc.

Thirty Club

THE 13th Annual Dinner of the Thirty Club will be held at the Trocadero Reataurant at 7.30 for 8 p.m. on Saturday, October 20th. The following have intimated their intention of being present :—

Boland, E. R.
Broster, L. R.
Brown, H. M.
Carter-Braine, J. F.
Conybeare, J. J.
Cook, F.
Duff, K. M. K.
Eccles, G. D.
Gaymer Jones, J.
Genge-Andrews, G. E.
Gibb, C. de W.
Hodgkinson, R. J.
Johnston, T. B.
Knott, F. A.
Lane-Roberts, C. S.
Lansdown, R. B. P.
Laver, C. H.
Le Clezio, E. L.
Lloyd, N. L.
Lloyd, V. E.
Morgan, O. G.
Ogilvie, W. H.
Osman, A. A.
Phillips, E. S.
Stoker, G. M.
Symonds, C. P.
Tanner, W. E.
Turner, W. A.
Watson, L. K.

Will any members who have not yet replied to the invitation please communicate immediately to Dr. J. J. Conybeare, Medical School Office, Guy's Hospital, S.E.1.

Pass List

CONJOINT BOARD.
PRE-MEDICAL EXAMINATION.
September, 1934.

Chemistry.

C. A. G. Cook
J. S. Crone
G. M. Pearson
G. E. Clarke
E. W. Crews
J. B. Gayes
A. M. Platt

Physics.

C. A. G. Cook
J. S. Crone
G. E. Clarke
E. W. Crews
H. J. Dunne
A. M. Platt
J. H. Sarginson
E. R. J. Walmsley
F. E. Barlow
M. Malleson
A. Pearce
R. A. Zorab
J. du Toit

Elementary Biology.

J. S. Crone
E. R. J. Walmsley
J. A. Cotterell
E. P. Cutler
R. M. de Gregory
W. E. Haines
D. A. H. Johnson
D. A. Ramsay
A. E. Ram
A. Southwell
E. P. O. Watson

FIRST EXAMINATION.
PART I.

Anatomy and Physiology.

*G. S. Dryland
*H. M. R. Knight
G. B. Dryburgh-Smith
D. C. Light
†C. F. Wright
C. L. Kimmelberg
R. W. Stevenson
*O. B. Brears
*D. C. Wilson
G. J. F. Rees
E. S. Foote
* Anatomy only.
†F. J. C. Matthews
†R. C. Jackson
†C. N. Mills
† Physiology only.

PART II.

Pharmacology and Materia Medica.

G. S. W. Dryland
C. N. Mills
G. James
W. G. Zorab
A. S. Woolstone

Guy's Hospital Dental School

PRIZE EXAMINATIONS, JULY, 1934.

The following awards have been made :—

EXAMINATION FOR THE PRIZE IN GENERAL MEDICINE
(*including Medicine, Surgery, General Pathology and Bacteriology*).

Pusey, R. F. Prize (£10).

EXAMINATION FOR THE FINAL YEAR'S PRIZE IN DENTAL SUBJECTS.

Weighall, H. C. A. Prize (£10).
Beales, C. M. Certificate.
Henderson, R. L. V. Certificate.

EXAMINATION FOR THE SECOND YEAR'S PRIZE IN DENTAL SUBJECTS
(*Dental Metallurgy and Dental Prosthetics*).

Robertson, J. C. Prize (£10).

EXAMINATION FOR THE PRIZE IN ANATOMY AND PHYSIOLOGY.

Gillett, P. F. B. Prize (£10).

Papers by Guy's Men

W. E. Herbert. Modern technique of inlay and bridge work (table demonstration). *Dental Record*, 1934, liv, 521.

A. H. Douthwaite. Some acute infections of the autumn. *Practitioner*, 1934, cxxxiii, 346.

George W. Bray. Recent advances in the treatment of asthma and hay fever. *Practitioner*, 1934, cxxxviii, 368.

L. J. Witts. Recent advances in the treatment of blood diseases. *Practitioner*, 1934, cxxxiii, 426.

Montague Maizels. Renal efficiency tests. *Post-Grad. Med. Jour.*, 1934, x, 361.

St. George B. Delisle Gray. The injection treatment of inguinal hernia. *Med. Press and Circ.*, 1934, clxxxix, 286.

Leslie G. Housden. Congenital absence of the abdominal muscles. *Archives Dis. Child.*, 1934, ix, 219.

W. W. Payne. Acid metabolism in rheumatic children. *Arch. Dis. Child.*, 1934, ix, 259.

Change of Address

Capt. S. C. Bakhle, I.M.S., Indian Military Hospital, Bareilly, U.P., India.

Dr. R. D. Gillespie, 16, Chester Terrace, Regent's Park. *Welbeck* 5220.

EDS. { D. P. K. / P. W. C.

GUY'S HOSPITAL GAZETTE

A Journal of Medicine, Surgery, Dentistry and Hospital News.

PUBLISHED FORTNIGHTLY.

Volume XLVIII *27th October* 1934 *Number* 1207

PASSIM

THE unit of clinical research which has recently been established at the Hospital owes its origin to the Medical Research Council, whose invitation to finance such a unit was accepted by the Governors of the Hospital. The cost of material and apparatus, and the salaries of the director and his assistants, will all be paid by the Medical Research Council. For its part the Hospital will provide six beds and two private laboratories, one possibly in what are at present the Bright kitchens and the other in the Medical School. The scheme will not be working fully until the completion of Nuffield House, until when six of Dr. Hurst's beds will be used.

The Medical Research Council believe that the interests of research are best served by the establishment of such units. Thus, when the funds formerly used in maintaining the research unit at University College Hospital became free, the Governors of our Hospital were approached, as at the other big hospitals there are already existing similar medical units. The arrangement is to be effective, in the first instance, for a period of five years, and, if successful, will be made permanent. The unit will put the Hospital in closer contact with the Medical Research Council, and the presence of a man of considerable experience in clinical research, who is prepared to give advice to younger men who become interested in the subject will be a great benefit to the Hospital.

The staff of the unit will consist of a director, an assistant and a technician. We are fortunate in having sent to us as director Dr. Ronald T. Grant, F.R.S., whose official title will be Director of the Clinical Research Unit and Assistant Physician to Guy's Hospital.

Dr. Grant has for some years been associated with Sir Thomas Lewis, and much of his work has been concerned with the question of cyanosis. In practice the assistant to the unit will probably always be a Guy's man—generally a former registrar or, at least, one who has completed the appointment of House Physician. He will co-operate with Dr. Grant in his work, but will be quite free to strike out on a line of his own. It will be a full-time appointment and will be made for one year, with the possibility at the end of that year of re-appointment. His salary will depend upon his previous experience, and at the most will not exceed £400. Applications for the position closed on the 18th October.

The scheme is being put into operation at once, and Dr. Grant is already taking over his quota of beds.

THE work of Dr. Laidlaw and his colleagues on "The Influenza Virus" has once more been brought to the notice of the public in the daily press, so that it was, perhaps, opportune that the Physical Society was able to open its session with a lecture on this subject by Dr. Laidlaw himself. Although it is seldom that Dr. Laidlaw can be induced to speak in public, on this occasion he gave one of the most illuminating lectures that the Physical Society has been privileged to hear, and all those who were present were extremely grateful to him. The importance of this work cannot be over-estimated, for the ravages of a real influenza epidemic are too well known to warrant any stress, and if anything can be obtained in the way of an "immune serum" to protect against the disease the world will be very ready to express its gratitude. The natural immunity

developed as results of an attack of influenza is very short-lived, so that the prospect of inducing an artificial immunity are not as good as they were in such a condition as smallpox—another virus disease. Dr. Laidlaw considers it probable that clinical influenza is due to a combination of two infective factors: (1) A virus which in itself is not very pathogenic, and (2) secondary organisms, the most important of which may possibly be the influenza bacillus of Pfeiffer. In our next two consecutive numbers we are publishing Dr. Laidlaw's lecture in full.

THE vacancy left by the retirement of Professor Eyre from his position as Head of the Bacteriology Department has been filled by Dr. F. A. Knott, who for many years has been not only the hæmatologist to the Hospital, but has acted as a constant source of advice to housemen and clinicals working in the Clinical Laboratory. Dr. R. L. Waterfield has taken over Dr. Knott's work.

THE seating arrangements in the Anatomy Theatre have been considerably improved during the vacation, and now it will be possible to sit through any lecture without devoting the major part of one's attention to the pain in the back and the crick in the neck rather than to the subject under discussion. Of course, it will somewhat reduce the art of sleeping in lectures.

WE wish to congratulate the following upon their House Appointments :—

House Physicians—
To Dr. Hurst—D. P. King.
To Dr. Mutch—T. E. Howell.

House Surgeons—
Mr. Hughes—J. M. McArthur.
Mr. Bromley—J. E. Rowlands.

Obstetric Resident—
To Mr. Chapple—R. H. Blazeby.

Out-Patient Officers—
R. A. Andrews — J. F. A. Forster
H. Cameron — W. H. Hamilton

Assistant House Surgeons—
To Mr. Ogilvie—C. G. Pantin.
To Mr. Doherty—H. A. Hamilton.
To Mr. Grant Massie—P. C. Alexander.
To Mr. Eckhoff—A. M. G. Campbell.

Throat and Ear House Surgeon—
To Mr. Mollison—F. A. Nicolai.

House Physician for Diseases of Children—
N. M. Jacoby.

Professor J. W. H. Eyre, M.D.—Retirement

ON October 1st we said "Good-bye" to Johnny Eyre on his retirement from the active staff under the age limit, and he leaves Guy's with the regrets and good wishes of countless old friends. Happy is the man who has a diminutive nickname, for it is the hall-mark of affection. Johnny Eyre was always Johnny Eyre ever since he came to Guy's 46 years ago, in 1888. He has hardly altered in all that time, except for one dreadful hirsute period when he left us for Charing Cross Hospital, and on that foreign strand grew a beard of the Belgian type. He has always been the same—dapper, neat, efficient and kind, always ready to help anyone in any problem, full of enthusiasm and prolific of ideas. His department was the most businesslike in the Hospital, and his annual reports were masterpieces, the admiration not only of the lay Governors of the Hospital, but also of any outside persons who ever had to inquire about anything connected with his department.

A formal and detailed biography is out of place here, and may well wait until what we hope will be the distant future, but some of this generation may not know that before he took up Bacteriology he was a Clinical Assistant in the Eye Department, and published an article on Tuberculosis of the Conjunctiva, which is till the classic work on the subject. He has been a Hunterian Professor and a Milroy Lecturer, and has published many papers on his subject. In recent years he has been the guardian of the stomachs of the rich, for he has been the adviser to the Fishmongers' Company in regard to the welfare and the bacterial innocence of the oyster. On the other hand, he has not neglected the interests of the poor, for as late as 1933 he published a paper on "The Bacteriological Analysis of Winkles."

His benevolence has not been confined to molluscs, for those of us who have known him on the square are well aware of countless acts of benevolence and kindness to his fellow-men.

If he has had a weakness it has been for fast, expensive and sometimes gaudy motor cars. One very noticeable example some years ago had a particularly striking colour scheme of gram

negative red and grey. After many years of devoted service it finally had its back and springs broken conveying a party of eleven from his house in Tulse Hill to Brixton one foggy night when cars were not available.

There was no opportunity for a formal last round, such as is available to a physician or a surgeon, but if he had had one it would certainly have been a record. No one has left the Hospital in recent years who carries with him such a burden of good wishes for the future and gratitude for his past at Guy's.

His most fitting epitaph would be that we owe to Hilaire Belloc :—

" He prayeth best who loveth best
All things both great and small,
The Streptococcus was the test,
He loved him least of all."

X.

Obituary

MISS HUGGETT—AN APPRECIATION

ON Wednesday, October 10th, Miss Huggett, who for 29 years had served Guy's Hospital as secretary to the Superintendent, passed into " The Undiscovered Country," and the Administrative Staff will never look upon her like again.

I do not want to speak of her work for Guy's, to which she gave herself completely from the time she came to the Hospital over 30 years ago—it is too well known to need any comment ; I want to pay my tribute to her as a teacher and as a friend. To be trained by Miss Huggett was a valuable, though not always an easy, experience. She would never tolerate bad or slovenly work ; she knew to an ounce what you could do, and she saw that you did it. In her later years, as her health began to fail, she became much more lenient, but I, for one, know what I gained by working under her in her younger and more forcible days.

I want to pay tribute also to her kindness, her ever-ready sympathy and interest, and most of all to her sense of humour and her personal charm. With a twinkle in her eye and a humorous remark Miss Huggestt could put straight in a moment a world that had before seemed very much awry ; and she was always ready to laugh at herself—a true test of real humour.

My most vivid recollection of Miss Huggett will always be that of sitting opposite to her in a train, very many years ago, and noticing with horror that she had forgotten—or presumably forgotten—to put on a hat. I spent an agonised quarter of an hour coming up to London Bridge wondering if I should tell her, and, if so, what to say : " Have you forgotten to put on a hat ? " or " Have you taken to going without a hat ? " For this was long before the days when to go without a hat is taken as a matter of course. However, I came to the conclusion that if Miss Huggett wished to come hatless to the Hospital, who was I to question her wisdom ? So I said nothing about it ; we chatted amicably, and she made the discovery herself on the platform at London Bridge. At first I was soundly rated for not having told her, but her annoyance soon changed to laughter. Only a few weeks ago we laughed again over it, but even then she couldn't give me a satisfactory answer to my question, " What should I have said ? " As for the hat, she had lost it on the way.

E. N.

Miss Ellen Huggett was educated at Brighton High School and subsequently at Newnham. After leaving Newnham she became governess to the Earl of Kenmare's children.

Miss Huggett came to Guy's in May, 1903, and was appointed Out-Patient Clerk. In November, 1903, she entered the Superintendent's Office, and in January, 1904, was appointed Second Clerk. In 1920 she was given the title of Secretary to the Superintendent, and this post she held until her retirement in 1932.

RALPH SHELTON CHAMBERS

RALPH SHELTON CHAMBERS died suddenly at Clare, Suffolk, at the age of 36, and his death will be mourned by a whole generation of Guy's men who had worked and played with him during his student days at the Hospital.

Chambers came to Guy's in 1916, but within a few months he left to join the Forces in the Great War, and after long service in France he returned to Guy's again after the Armistice. During the years immediately following the war he became one of the most active members of a group of Guy's men who found the fullness of life at the Hospital. He was interested in his work, he was an all-round athlete, and he enjoyed the company of his fellows, so that he formed many

lasting friendships which continued through the years that followed his leaving for general practice.

In his professional work his thoroughness and soundness of judgment ensured his success in general practice, and his generosity and kindness endeared him to the country folk amongst whom he spent a great deal of his time. His love of honesty and his dislike of all show or insincerity gained him the confidence of all his patients.

Although for the last ten years his work gave him too little opportunity for leisure, yet he found time regularly to visit his old friends, and to share his pleasures with them. He took every opportunity of meeting them, and his house had always a welcome for those who went to see him. His interests outside medicine were many. He was an accomplished pianist and he had a keen appreciation of music; in literature his tastes were serious, and his reading was unusually thorough and wide; he enjoyed his sports, his garden and his bridge, so that he found pleasure in, and gave pleasure to, a very wide circle of friends and acquaintances.

Those of us who knew him well know that in his death we have lost the best of friends, the most generous of hosts, and a Guy's man whose sincerity gained for him the friendship of so many. Our sympathies are with his wife and child in their bereavement, and we can realise to some extent at least how great is their loss.

COLONEL SAMUEL ESMOND PRALL

SAMUEL ESMOND PRALL, "Sammy," Lt.-Col. I.M.S., passed away at his home, Hythe, Kent, on Saturday, September 15th He will be remembered during his hospital career (1881-1890) for his association with the Artists' Rifles of those days and for his good work during his hospital appointments. Later, many will recall his work out East—particularly an incident during the Bombay Riots of 1897-98, when he kept the mob attacking the Jamsetji Jijibhai Hospital at bay with an empty rifle till help arrived. He had a lot to do with plague work at the Grant Medical School, and at later, the hospital at Aden, at which place he was Port Surgeon for many years.

When practically retired he rejoined during the war and was appointed to the *Glengorm Castle* Hospital Ship. He was torpedoed in the Mediterranean and later had another hospital ship, and was at Dar-es-Salaam. He never quite recovered from the effects of being torpedoed. He took a keen interest in all sports and amateur theatricals. Mentioned in Dispatches, *London Gazette*, March 7th, 1918, and awarded 1914-15 Star, British War and Victory Medals.

JOHN WILLIAM ENSOR, M.R.C.S., L.R.C.P.

WE regret to announce the death, on September 26th, of Dr. John William Ensor. Dr. Ensor was educated at Epsom College and Guy's, and qualified in 1899. Soon afterwards he started practice in Birmingham. Ensor moved to the new district of Golder's Green in 1911, and saw Hendon develop from a rural village to a borough of over 100,000 inhabitants. In practice he was extremely successful, and on his retirement in March of this year, owing to ill-health, he received a remarkable demonstration of affection from his patients, who presented him with an illuminated address and a motor car to mark their appreciation of his services. After 22 years' membership of the British Medical Association he was made chairman of the Hendon Division in 1931. For many years he served on the medical staff of the King Edward Memorial Hospital, Hendon. His colleagues have a very deep and real sense of sorrow at his loss. He is survived by his wife and two children.

Gall Stones

A Clinical Lecture by W. H. Ogilvie, Esq.

GENTLEMEN,—You see cases of gall-stone disease nearly every morning in the Out-Patient Department and nearly every afternoon in the theatres. In my own experience of abdominal surgery it is second in frequency only to appendicitis, and much commoner than gastric or duodenal ulcer, but, unlike appendicitis and peptic ulcers, which are comparatively new diseases and are yearly increasing in frequency, gall-stones have been familiar to physicians from the earliest times. The illness and death of Sir Walter Scott present a classical example of the patient progressing from attacks of gall-stone colic to obstruction of the common duct.

ANATOMY

The gall bladder is a pyriform sac, holding from 50 to 60 c.c. of bile. It has three coats. The serous coat covers those parts not in contact with the liver, and therefore varies from a complete investment with a mesentery to a partial covering in the buried gall bladder. The middle coat consists of loosely arranged bundles of plain muscle, elastic and fibrous tissue. The mucous membrane is covered with a columnar epithelium rich in mucous glands; it is raised in folds which in the body give a honeycomb appearance, and in the cystic duct are arranged in more definite ridges—the spiral valve of Heister. The anatomical subdivisions are the fundus, which is free and projects beyond the sharp margin of the liver, the body and the cystic duct. The body does not taper gradually to the cystic duct, but takes a Z-shaped bend in its terminal portion (Fig. 1).

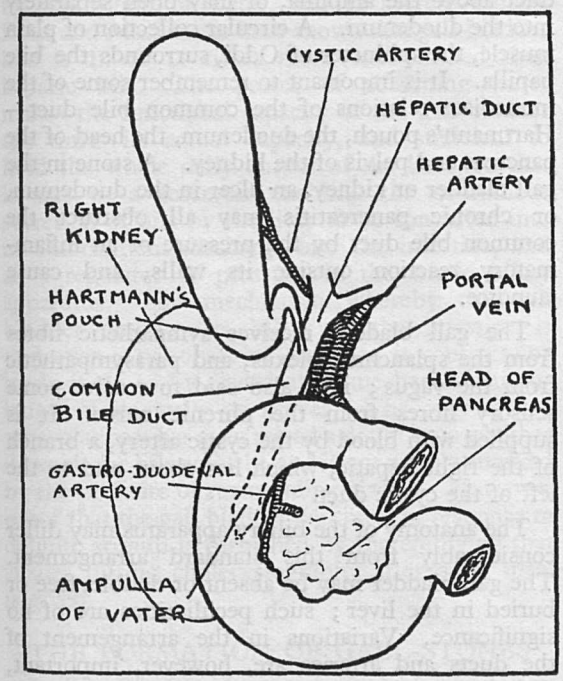

Fig. 1.

The part before the first bend thus forms an ampulla, which, though it is not described in anatomical text-books, is known in surgery as Hartmann's pouch. Hartmann's pouch is the lowest part of the gall bladder in the recumbent position, and is, therefore, the place where stones tend to lie. It is in contact with the common bile duct behind, and the first part of the duodenum below.

The cystic duct begins after the second bend and joins the common hepatic duct at an acute angle to form the common bile duct. The common hepatic duct is formed in the hilum of the liver by the junction at an obtuse angle of the right hepatic duct with the left, which is considerably smaller; it is about one inch long, and, after receiving the cystic duct, becomes the common duct. The common bile duct is $2\frac{1}{2}$ to 3 inches long, and opens into the posterior wall of the second part of the duodenum at the bile papilla. The cystic duct is 1/12th to 1/8th of an inch in diameter, the hepatic duct is about 1/5th of an inch in diameter, and the common bile duct about $\frac{1}{4}$ inch in diameter. The bile papilla is about $\frac{1}{8}$th inch in diameter, but can readily be stretched to $\frac{1}{4}$ inch. Thus the narrowest part of the duct system is the termination of the cystic duct, and a stone which can pass through this opening can probably pass through the bile papilla into the intestine.

The surface marking for the fundus of the gall bladder is usually given as the tip of the 9th costal cartilage or the junction of the linea semilunaris with the costal margin. This part, however, varies very much in position, and may be found further out or nearer the mid-line. The site of the junction of the cystic and hepatic ducts is more constant, and lies on the pyloric plane an inch to the right of the mid-line. In an X-ray this corresponds to the tip of the transverse process

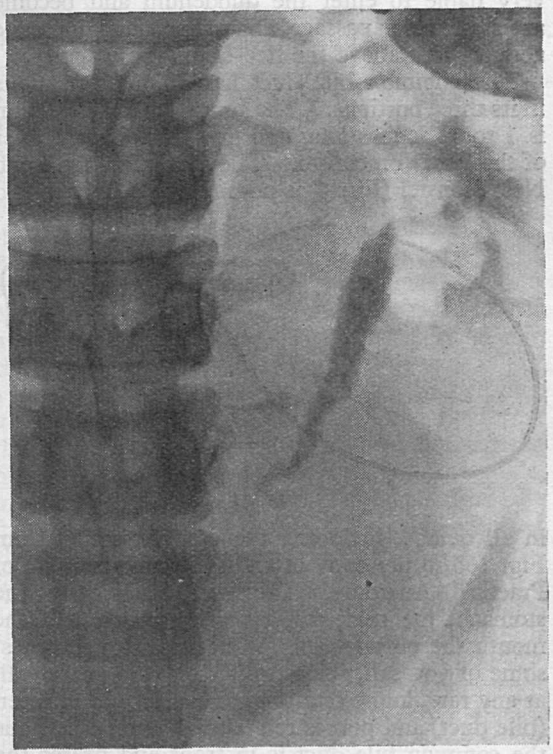

Fig. 2.

of the first lumbar vertebra, and from this point the gall bladder may pass vertically downwards in narrow-chested individuals or almost horizontally in those with a wide epigastric angle. It usually occupies an intermediate position (Fig. 2). The immediate relations of the gall bladder are shown by the diagram of the under surface of the liver (Fig. 3). It is in contact with the hepatic flexure

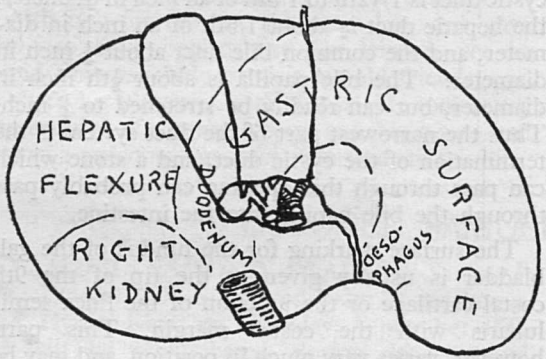

Fig. 3.

in front, the duodenum behind. A large stone may ulcerate through the gall bladder wall into either viscus, but since such a stone is more likely to be impacted in Hartmann's pouch, it is very liable to enter the duodenum and become arrested in its passage down the small intestine about a foot above the ileo-cæcal sphincter.

The common bile duct has different relations in its three portions. The supra-duodenal portion is 1 to 1½ inches long and lies in the free border of the lesser omentum. The picture of the Loch Ness monster (Fig. 4) is not my own, but is copied

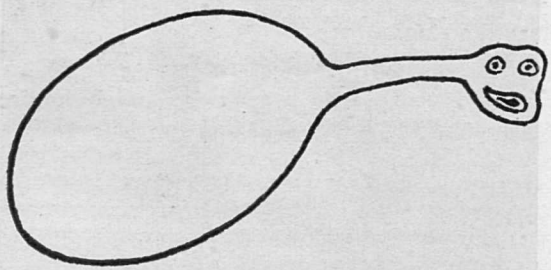

Fig. 4.

in all details, including the crooked smile, from Fig. 165 in my copy of Cunningham's manual of Practical Anatomy. The body is clearly the stomach, the neck the lesser omentum, and the mouth the portal vein. With regard to the eyes, some of you sail, some drink, some do both; all, at any rate, know that the starboard light is green (bile duct) and port is red (hepatic artery). Thus the common bile duct is in front and nearer the free border, that is, in the position most accessible to the surgeon. It can be felt between the index finger of the left hand passed into the foramen of Winslow and the thumb in front, and it can be incised without risk to other structures. The retro-duodenal portion is one inch long, and passes, first, behind the first part of the duodenum, then between the second part and the head of the pancreas; it may in some cases pass through the pancreas or behind it. This part is also related to the gastro-duodenal artery and the pelvis of the right kidney. The intra-duodenal portion, half an inch long, passes very obliquely through the duodenal wall, and terminates in the bile papilla, which is marked by a prominent fold of mucous membrane, the frenum papillæ. Before the papilla the duct has an enlargement, the ampulla of Vater, where it is joined by the main pancreatic duct. While this is the common arrangement, the pancreatic duct may join the bile duct above the ampulla, or may open separately into the duodenum. A circular collection of plain muscle, the sphincter of Oddi, surrounds the bile papilla. It is important to remember some of the immediate relations of the common bile duct—Hartmann's pouch, the duodenum, the head of the pancreas and pelvis of the kidney. A stone in the gall bladder or kidney, an ulcer in the duodenum, or chronic pancreatitis may all obstruct the common bile duct by the pressure of an inflammatory reaction outside its walls, and cause jaundice.

The gall bladder receives sympathetic fibres from the splanchnic plexus, and parasympathetic from the vagus; it is also said to receive some sensory fibres from the phrenic nerve. It is supplied with blood by the cystic artery, a branch of the right hepatic, which lies above and to the left of the cystic duct.

The anatomy of the biliary apparatus may differ considerably from this standard arrangement. The gall bladder may be absent or double, free or buried in the liver; such peculiarities are of no significance. Variations in the arrangement of the ducts and arteries are, however, important, and they are by no means unusual. The cystic duct may be very short or long. When it is short the common duct is easily drawn up with the gall bladder, and divided in mistake for the cystic duct; when it is long, it runs for some distance parallel with and closely adherent to the common duct before opening into it, and once again injury of the latter is possible. An accessory right hepatic duct is often present, and may open directly into the hepatic surface of the gall bladder, so that it may be divided unnoticed during cholecystectomy, and discharge bile into the peritoneal cavity. The only common variation in the arrangement of the

vessels is a second cystic artery, which may come from the common hepatic or gastro-duodenal artery, and pass to the gall bladder in close relation to the common duct, where it is liable to injury. The only point I would emphasise is that variations are too frequent to ignore and too numerous to memorise, and that no vessel must be clamped and no duct divided till the arrangement of both has been laid bare.

FUNCTION

Despite the fact that many animals, such as the horse and most deer, possess no gall bladder and the frequent observation that cholecystectomy gives rise to no recognisable symptoms, physiological research has made it clear that the gall bladder has definite functions. Its known actions are to concentrate the bile from the hepatic ducts by absorption of water, and to secrete mucus. Rous and MacMaster have shown that gall-bladder bile is 10 or 11 times more concentrated than hepatic bile. The power of absorbing water makes the functional capacity of the gall bladder ten times its actual capacity, and sufficient to hold the whole daily output of the liver, so that it acts as a reservoir enabling the continuous secretion of bile by the liver to be converted into an intermittent discharge into the intestine, and as a regulator of pressure in the whole bilary apparatus. The mechanism whereby the gall bladder empties its bile into the intestine is unproven; no observer has seen it contract, or made it do so by electrical or mechanical stimulation of its walls or nerves. The very sparse muscular coat has even raised a doubt as to whether it expels the bile actively, and is not merely emptied by the pressure of surrounding viscera. However, proof that the gall bladder contracts in response to definite stimuli is furnished by the emptying that ensues during cholecystography after a fat meal is given.

THE FORMATION OF GALL-STONES

It is said that three principal circumstances contribute to bring about the formation of stones in the gall bladder :—

1. Infection of the gall-bladder wall.
2. Stasis of bile.
3. An increase of cholesterin in the blood.

This statement, while it is true in its main outlines, must be qualified by reference to the different varieties of stone that are encountered. There are three main types :—

1. Pure pigment stones.
2. Pure cholesterin stones.
3. Mixed stones.

It is usually accepted that the first and second types are primarily due to errors of metabolism, while the third type, which is by far the commonest, is due to infection.

1. *Pure pigment stones* are multiple, small, black in colour, and usually smooth, but they may be soft and irregular. They are rare in England, but are said to be the common type in Japan. Their formation is favoured by conditions such as hæmolytic jaundice, in which bile pigment is produced in excess. The majority are found in the gall bladder, where the increased concentration favours depositions of excess pigment, but pigment stones may be formed in the hepatic ducts. They are usually passed by the ducts and give rise to few symptoms, but they may lead to cholecystitis or form the nucleus of mixed stones.

2. *Pure cholesterin stones* are usually single. Such a stone is large, rounded or oval, honey-coloured or white, and crystalline on section. It is often found in an absolutely healthy gall bladder. That a pure cholesterin stone is the result of a metabolic error seems clear, but to give more a specific explanation is as yet beyond us. Cholesterin is one of the many dark horses of the metabolic stables, structurally related on one side to œstrin, a useful hormone, on the other to the carcinogenic hydrocarbon in "coal tar." It is an essential constituent of the more important body tissues and fluids, yet it is excreted with the greatest prodigality in the bile and appears in excess in pathological exudates. What it does is no more certain than when it comes or whither it goes. It is present in many food-stuffs, but is also of endogenous origin, and the increased cholesterin which appears in the blood during pregnancy and fevers is certainly not accounted for by an increase of intake. In the bile it is held in colloidal solution by the bile-salts; deposition in the gall bladder may therefore be due to an increase in the bile cholesterin or a deficiency in the bile salts. But a further factor is the part played by the gall gladder itself in the cholesterin cycle. Some hold that the gall bladder reabsorbs cholesterin from the bile, others that it excretes it; on the whole, probability and experimental evidence form the first view. Thus a failure in the re-absorption of cholesterin is another possible cause of stone-formation.

Related to the problem of the pure cholesterin stone is that of cholesterosis of the gall bladder, or strawberry gall bladder. In this condition the mucous membrane is bright red, and submucous collections of a cholesterol ester, white in colour, are speckled over the surface, chiefly on the summit of the ridges. The lipoid deposits are confined to the mucous membrane; the greater

part is contained in large foam cells in the submucous layer, but some may be in the columnar cells themselves. Cholesterosis may occur in a gall bladder which is otherwise healthy macroscopically and microscopically; it may also co-exist with inflammatory changes or with stones. The change is strictly limited to the gall bladder, and never affects the ducts. Whatever their origin, it is clear that these lipoid deposits may enlarge and form the nucleus of stones.

3. *Mixed stones* consist of cholesterin and calcium bilirubinate. These are the type commonly encountered in practice. Mixed stones are nearly always multiple, but they vary in number from two or three to several hundred, and in size accordingly.

The stones in any gall bladder are all of one size, or if they differ they can be sorted out into two or three batches of the same size each, suggesting that each batch was formed at the same time. They are smooth, polished and facetted; smaller stones are usually pyramidal or square, the larger ones hemispherical or barrel-shaped, one or more barrels and two hemispheres fitting together to form a cast of the gall bladder. They are grey with a pearly lustre, often with patches of green, and were they harder they might rival the pathological concretions of lesser animals as ornaments. Each stone contains a nucleus of organic matter, bacteria or inspissated mucus. Round this centre the other constituents are deposited in concentric layers, the inner layers being richer in cholesterin, the outer ones in calcium salts. This structure explains the characteristic "ring" shadow of a gall-stone in X-rays.

It appears, then, that metabolic stones can be found in the gall bladder apart from inflammatory changes, and it is equally true that cholecystitis can occur without gall-stones. In practice, however, the two are associated in at least 80 per cent. of cases. Stones present in a gall bladder, originally healthy, damage its walls and open the path to infection, and infection in the gall bladder leads to stone-formation, either because the exudate forms an organic nucleus round which cholesterin is deposited, or because the absorption of cholesterin is interfered with. Infection may reach the gall bladder by the duct, by the lymph channels, by the portal or by the systemic blood stream.

At the present time the view held almost universally is that gall-stones of the mixed type are the result of an infection of the gall bladder, and that the infection is brought by the systemic blood stream and is usually streptococcal, the original focus being in the teeth, tonsils or appendix. Among the experimental evidence supporting this view is that of Rosemow, who was able to produce cholecystitis in animals by the injection of streptococci cultivated from the gall bladder, and from the teeth of patients with stones, and of Wilkie, who grew streptococci from the cystic gland in gall-stone cases.

CLINICAL ASPECTS

It is a commonplace that gall-stones are often found at operation as a surprise discovery, and are seen in the post-mortem room in individuals who have never suffered during life from symptoms referable to their presence. They rarely give symptoms before the age of 35. Yet once they have done so they never become quiet again, and cause disturbances of various types, increasing in severity with their repetition.

The symptoms associated with gall-stones are innumerable, but I wish to-day to exclude all those due to complications, including under such complications the entry of stones into the common bile duct, and to discuss the clinical picture of stones in the gall bladder in its simplest form.

The symptoms fall into two groups, those due to the presence of stones lying quietly in the gall bladder, often called the inaugural symptoms, and those of a gall-stone attack.

The inaugural symptoms are: indigestion, either a vague discomfort after meals or a more periodic pain resembling that of duodenal ulcer and due to pylorospasm; nausea, especially after fatty foods; heartburn; loss of appetite; tightness of the epigastrium; distension, and eructations; constipation. It is difficult to give a reasoned explanation of these symptoms. Some are probably precedent and causative; gastritis and constipation, for instance, may be the cause of biliary stasis and a source of infection. Some are merely the common troubles of fat people of the type who usually provide the gall-stone patients. Some are due to pressure on the pylorus by a distended gall bladder or peri-cystic adhesions. Some are the reflex effects of a diseased viscus upon a neighbouring one.

The symptoms of an attack depend upon two main factors:—

1. The migration of a stone into a narrow part of the biliary apparatus, and the contractions of the plain muscle of the gall bladder in an effort to expel it.

2. An exacerbation of infection added to the mechanical damage.

If the stones are small, the first factor predominates, at any rate in early attacks. If they are large, the infective factor is usually the only one.

The chief feature of a gall-stone attack is the pain, and in most cases we can make a diagnosis

on the nature of this pain, without waiting for other symptoms or signs to appear, and without recourse to accessory methods of investigation. Gall-stone pain has the following characters :—

1. It is very severe. In my experience four pains outdistance in severity any others in the abdomen. The pain of a gastric and duodenal perforation is the worst, then that of gall-stone colic. The pains of renal colic and acute pancreatitis come third and fourth, and all others belong to a different category. Female patients always agree that the pain of gall-stones is worse than that of labour.

2. The onset is sudden, usually instantaneous, and the pain reaches its maximum intensity in a few minutes.

3. It does not last at this maximum intensity for more than two to six hours, but, on the other hand, it generally persists as a soreness for another 24 hours.

4. It usually shows the rhythm of a colic.

5. It is above the umbilicus and medial to the linea semilunaris. This localisation distinguishes it from renal colic, as its severity distinguishes it from appendicular and intestinal colic. True gall-bladder colic—that is, a pain arising in the spasmodic contraction of plain muscle with no element of infection super-added—is, however, no more accurately localised than this, and is often referred by the patient to an ill-defined area in the mid-line.

6. It is accompanied by reaching, but rarely relieved by vomiting.

7. It is often referred to the lower angle of the right scapula, but it may be referred to the left or to the spine at this level, or there may be no referred pain.

8. The attacks follow no law. They are not brought on by any recognisable cause, they are not related to activity or to any bodily function, and they may come on at any hour of the day or night. The interval between successive attacks, while quite irregular, tends to decrease.

Some of the features upon which stress is laid in the text-books are not essential to the disease, but belong to its later stages. I refer particularly to pain over the costal margin, acromial pain, and jaundice. Localised pain and pain referred to the acromion are symptoms of infection and not of obstruction. Jaundice is not seen in more than 10 or 15 per cent. of all cases, and very seldom indeed in the early stages. The chief modifications in the clinical picture due to the superposition of the element of infection or that of colic are that the parietal and diaphragmatic peritoneum are irritated, giving rise to accurate localisation of the pain, muscular rigidity and shoulder pain, and that constitutional symptoms, fever, shivering fit or rigors accompany the attacks.

In a typical attack, then, the patient, usually a woman "fair, fat and forty," has been stricken by pain with the characters described, and is collapsed, sweating and reaching ineffectually. Upon examination, rigidity of the whole upper half of the right rectus will probably be found, tenderness over the same area, and possibly hyperæsthesia over the right of the epigastrium or below the right scapula. An injection of morphia is usually required. As the attack subsides the rigidity goes and the outline of the distended gall bladder can be felt; the tenderness is now limited to the gall bladder, and when the patient is asked to take a breath while the hand is pressed under the costal margin, inspiration is inhibited.

PROGNOSIS

When the attack has subsided the patient is once again perfectly well and happy. Should the attack be the first, she will probably scout the idea of surgical treatment; with further attacks —and these are certain—she will probably change her mind without persuasion. Were pain the only thing to be feared we should advise, but not insist upon, operation. Many complications, some of them highly dangerous, are incidental to the disease; but more important than such possible disasters is the certainty that each attack of pain in the gall bladder is an attack on the function of the liver, which therefore suffers steady and progressive damage. Operation at an early stage is safe and satisfactory; the risks and the unsatisfactory results are not those of surgery, but hepatic insufficiency.

This being the case, we should advise operation as soon as the diagnosis is certain, and should make the diagnosis as soon as possible. Gall-stones can usually be recognised on clinical evidence alone. Typical pain and gall-bladder tenderness are sufficient, and there is no need for further investigation.

In typical cases we may need support for our clinical judgment. A plain X-ray will show the stones in about 30 per cent. of cases, and should therefore be undertaken where further evidence is required. The shadow of a gall-stone is a ring with a light centre. The common type of stone being multiple, several such rings will be found grouped in a cluster the shape of the gall bladder and having its anatomical position. In a lateral film the shadows will lie in front of the vertebral column. If successive examinations are made on different days, the arrangement in the group will have altered. Should a plain X-ray fail to demonstrate the presence of stones, cholecystography

may be undertaken. This method, while interesting, is occasionally dangerous, sometimes unpleasant, and often unreliable. A purely diagnostic procedure can only justify itself if it is 100 per cent. safe and nearly 100 per cent. accurate. Cholecystography satisfies neither of these requirements, and it should therefore be reserved for cases of real doubt, and not be ordered in every case. Normal filling does not necessarily mean a normal gall bladder, nor do variations in filling or even absence of shadow prove an abnormal one. The only certain proof of disease is the demonstration of a deformed gall bladder or the negative shadow of a stone.

Accessory tests very often fail in just those cases in which the diagnosis is uncertain on clinical grounds. Such cases are usually those in which the element of migration is absent and that of infection predominates. Here a six weeks' trial of the Hurst regime will often give the answer. If the symptoms fail to improve, or, after improving, return when the treatment is discontinued, it is almost certain that the infection is being kept active by a mechanical factor, that is by stones.

TREATMENT

I do not wish to discuss operative details, but merely to indicate the principles which govern surgical treatment.

Cholecystectomy, or removal of the gall bladder, is the accepted treatment of gall-stone for two reasons. Firstly, because it is radical and curative; it removes the stones and the organ in which the stones are formed, an organ that has only formed stones because it was damaged, that has no power of recovery after the stones are removed, but will form fresh ones if it is left behind. Secondly, because it is a clean operation and not a drainage operation; the wound is firm and sightly, convalescence is greatly shortened, and dressings are reduced to the minimum.

Cholecystostomy, or drainage of the gall bladder, is performed under three circumstances. Firstly, when cholecystectomy is unusually difficult or dangerous, because the patient is very old or feeble, because there are complications elsewhere, or because the gall bladder is surrounded by dense adhesions. It must be remembered that cholecystostomy is useless unless the "key?" stone in the systic duct, which may be hard to find, is removed. Secondly, when long and free drainage of the biliary apparatus is required, that is when the duct system is infected. Thirdly, when obstruction to the common duct is feared in the future, either because the head of the pancreas is found enlarged and hard, or because stones, impacted at the ampulla, have produced ulceration, which may lead to stenosis. The gall bladder should be retained in such cases, so that it may, if necessary, be anastomosed to the stomach to overcome the obstruction to the common bile duct.

Post-Traumatic Joint Stiffness

By T. T. Stamm, F.R.C.S.

THE fact that joints are merely mechanical devices which enable muscles to perform their functions, while muscles are the functionally active agents in the production of movements is so obvious that it is often forgotten, particularly when dealing with clinical material. The clinical aspect tends to obscure the anatomical and physiological factors concerned. This is especially the case in post-traumatic "joint stiffness," so-called. For instance, a patient who has been under treatment for some weeks following a fracture appreciates, after union has occurred and his splints have been removed, that he has some limitation of movement in the limb, and he almost invariably ascribes it to "joint stiffness." Too often this ready-made diagnosis is accepted by the doctor, and the subsequent treatment is carried out under the assumption that the cause of the condition is situated within the joint.

To appreciate the fallacy in the above argument one has only to think of a normal joint enclosed in a plaster case. That joint is then apparently completely stiff, yet it is actually capable of full and perfect movement. In this case obviously "treatment" should be directed against the plaster case and not against the joint. Similarly under clinical conditions, the movements of a normal joint are restricted most commonly by factors which are entirely extra-articular, such as contracted muscles, adherent tendons, or scar tissue. And this is so in practically all cases where the structures affected by the trauma are extra- or peri-articular, *e.g.*, fractures, sprains, etc., the cause of the apparent "joint stiffness" lying in the condition of the surrounding muscles, tendons, tendon sheaths, and ligaments. Further, even when there has been intra-articular damage, it will be found that the joint rarely stiffens to any marked extent unless there has been extra-articular damage in addition.

Treatment, therefore, must be directed towards these extra-articular structures and not merely to

the joint itself. If this is not appreciated, not only will treatment be ineffective, but an entirely wrong attitude will be adopted towards the prevention of this stiffness.

Fracture of the carpal scaphoid provides a good illustration of the above principle. Following this intra-articular fracture, the wrist frequently has to be immobilised for as long as nine months, yet when the plaster is removed the wrist is found to be freely movable—*provided that the thumb and fingers have been left free and exercised continuously during the period of immobilisation.* If, on the other hand, they had also been splinted, a few weeks would have sufficed to produce considerable stiffness at the wrist. This stiffness must therefor be *extra-articular* in origin, as the wrist joint was fixed in both cases. This almost revolutionary principle was first enunciated by Böhler, of Vienna, and has had ample confirmation since then.

The explanation must be sought by a consideration of the pathological processes at work. Following any severe injury to a limb, the areolar tissue which intervenes between the muscles, tendons and ligaments becomes infiltrated with blood and lymph, which must either be absorbed or else organised into scar tissue. The absorption of such exudates depends upon the circulation, which is in turn largely dependent on muscular activity. If the surrounding muscles are prevented from functioning by a more extensive immobilisation of the part than is necessary, the process of absorption is grossly impeded. Organisation, therefore, takes place, and the peri-articular structures become bound together, so that stiffness results. It is clear, therefore, that in order to prevent this from occurring the muscles must be continually and actively exercised. In this connection the futility of passive movements for the prevention of stiffness must be clear.

In the practical application of these principles Böhler has shown that exercising the muscles does not necessitate inefficient fixation of the damaged part. Most muscles act on more than one joint, and it is therefore possible to exercise them on one joint while immobilising the joint which is nearest to the fracture, or which has itself been damaged. This may be termed the *protected use* of the part. As an example, if, after the reduction of a Colles' fracture, a plaster is applied from below the elbow to the bases of the fingers, thus leaving the thumb and fingers free, the great majority of the muscles which normally act on the wrist joint can be exercised freely by active movements of the fingers, thumb and elbow, without disturbing the fracture. If this line of treatment is adopted, the wrist joint itself will be found to have a very good range of movement when the plaster is removed several weeks later. The results will be very much better than those obtained when early movements are insisted on at the expense of proper immobilisation of the fracture. Such a procedure only results in further trauma to the bone, and hence an increase in the amount of exudate. Further, it should be remembered that such movements cause more pain than " protected use," and that pain favours muscular atrophy.

The two important principles to be remembered, therefore, are : (1) The damaged parts must be immobilised efficiently by such fixation of joints as may be necessary ; and (2) during the period of immobilisation as many of the limb muscles as possible must be exercised actively. It cannot be stressed too strongly that immobilisation of joints is not the cause of joint stiffness ; it is immobilisation of muscles. Muscles are the physiological motor factors in a limb, joints merely the mechanical contrivances which make movements possible. Therefore, when movement is lacking, it is the muscular mechanism, and not the joints, that should be considered first. A stiff limb may be compared to a motor car which will not go—one does not immediately examine the wheels ; it is the engine that one considers first. In the same way, passive movements are often the equivalent of attempting repeatedly to twist round the wheels of a car whose engine has seized up. Finally, it must be remembered that the importance of exercising the muscles is never an excuse for inefficient fixation of the damaged part.

The application of these principles to a few of the more common clinical conditions can now be considered

COLLES' FRACTURE

This has already been mentioned. After proper reduction, the principles of treatment are : (1) To immobilise the fracture until union has taken place, which may take as long as six weeks, and the most efficient method is a plaster applied from below the elbow to the bases of the fingers. (2) To prevent subsequent stiffness of the wrist by functional use of the fingers, thumb and elbow ; " after-treatment " will then be reduced to a minimum.

SPRAINED ANKLE

Here the injury usually consists of a tearing of the external ligaments of the joint. In order that they may heal properly, they must be rested in a position of relaxation, which may be best accomplished by strapping the ankle firmly with elastoplast. The limb must now be put to functional

use, the patient being encouraged to walk as soon as possible. Not only will the absorption of the exudate be thereby encouraged, but the œdema which is so commonly seen and is largely due to circulatory stasis, will be prevented to a great extent. The physiological truth in the old maxim for the treatment of sprains, namely, to rub, strap and use, can now be appreciated.

OPERATIONS ON THE KNEE FOR THE REMOVAL OF A CARTILAGE

After such operations the chief anxiety is to prevent subsequent joint stiffness, and the importance of early movements is frequently stressed. But even here, where the joint itself has been opened and to some extent traumatised, it is not the joint, but the surrounding structures which give most trouble. The joint itself should be rested until the wound is soundly healed, but the muscles should be exercised from the first. Again early use, not early movement, should be the watchword. For this purpose, the patient should be shown before the operation how to brace up the patella by muscular contraction, without moving the knee, and he should be encouraged to practise this repeatedly from the first day after the operation. In about five days he may safely be allowed to walk, with a firm bandage round the knee to limit movement. If the tone of the quadriceps muscles can be retained, the troubles of post-operative effusion will also be reduced to a minimum, as muscle tone is the most important factor in aiding the absorption of fluid from a joint.

These examples have been selected not only because they are of common occurrence, but also because they illustrate very clearly the principles which have been stated in the early part of this paper. No attempt has been made here to discuss the whole of this wide subject, and for this reason such special conditions as myositis ossificans and Volkmann's ischæmic contracture have not been considered.

Impressions of Leningrad and Moscow during the Summer Vacation

(continued)

WOMEN'S POLYCLINIC, MATERNITY AND ABORTION CENTRES

IN Leningrad we also spent a morning visiting a Women's Polyclinic, Maternity and Abortion Centre. This was similar in most respects to another seen later in Moscow, so that a description of one will suffice.

On entering the Clinic we were faced with a statue of Lenin, invariably seen in the entrance hall of any public institution, symbolising the Russian conception of the interdependence of Socialism and the particular social activity to which the institution is devoted. Thus in a hospital we are reminded that a perfect health service is both dependent upon and itself conditioned by Socialist construction. "The Protection of the Health of the Workers is the task of the Workers themselves," says a Soviet slogan.

Everywhere on the walls of the corridors and waiting-rooms are posters and diagrams explanatory of health matters, tables are strewn with educational pamphlets which seem to be earnestly studied by the patients.

The building, though by no means new, was light and airy and well equipped. It was apparently adapted from a former private dwelling, facing directly on to one of the busiest thoroughfares of the city. Women streamed in and out from the crowded pavements all the time we were there.

The Polyclinic consists of a consulting bureau for women seeking medical advice, a number of maternity wards with 130 beds for lying-in and post-operative recuperation, and a special department for those desiring an abortion operation. There is a staff of 210 medical men and women, in addition to the trained nursing staff.

If a Russian woman seeks an abortion she is able to obtain seven to eight days' leave from work upon full pay. She then attends the Clinic for examination and is admitted for operation the next day. The practice is to operate between the fifth and tenth weeks of pregnancy; the Soviet law forbids an abortion if the pregnancy has been continued for more than two and a half months. In the event of a first pregnancy the operation is refused unless childbirth would seriously endanger the woman's life, and in later pregnancies it is not encouraged. After the operation the patient remains in the hospital for 56 hours and, after being allowed out, is re-examined six days later.

The operations being performed while we were there impressed a gynæcologist in our group as being excellent in technique.

We were told that during the past six months, out of about 6,000 operations performed only 28 needed any further treatment. The mortality for the operation is rather less than one in ten thousand.

In describing the work of the Polyclinic the Medical Officer spoke of the "Fight against Abortion," showing how the Soviet policy aims for the elimination of the practice altogether, and a large part of their work was to give advice in the use of contraceptives.

In 1920 the People's Commissariat of Health, jointly with the Commissariat of Justice, issued a decree regarding the practice of abortion. The preamble stated that during past years, both in Russia and in the West, the artificial discontinuance of pregnancy had been on the increase. The legislation of other countries attempted to combat the evil by punishing the woman who sought abortion and the person performing it. The result had been to drive the operation underground and make the woman a victim of mercenary and ignorant quacks, who made a profession of its secret practice. Thus it was estimated that up to 50 per cent. of such women were infected and up to 4 per cent. died.*

The Soviet Government approached the problem in another way. It proposed to issue propaganda against abortion amongst working women and to extend the protection of maternity and infancy on the largest possible scale. At the same time it was forced to recognise that, owing to the moral survivals of the past and the difficult economic conditions of the present, many women still wished to resort to the operation for abortion. The Government, anxious to protect the health of the women and realising that the method of repression had failed entirely to achieve this end, decided :—

1. To permit such operations to be made in Soviet hospitals where conditions are assured of minimising the harm of the operation.

2. Absolutely to forbid anyone but a doctor to carry out the operation.

3. Any nurse or midwife found guilty of making such an operation to be deprived of the right to practise and to be tried before the People's Court.

4. A doctor carrying out an abortion in his private practice with mercenary aims will be called to account by the People's Court.

The satisfactory result of this legislation was a sharp decline in the number of women applying to hospitals with incomplete abortions which had been started illegally. In Moscow the figures show that while in 1923 incomplete abortions stood at 57 per cent. of cases, by 1932 they were only 10 per cent. We were assured that in 1934 the number of women applying to hospitals, in the big cities, with incomplete abortions had become almost negligible.

E. D.

* See Dr. Semashko — "Health Protection in the U.S.S.R."—*Gollancz*.

Dental Society

THE first meeting of the Dental Society was held in the Pathology Theatre on Tuesday, 2nd October. It was very well attended, there being over 120 students present. The President, Mr. E. B. Dowsett, was in the Chair.

The meeting was opened by the Secretary reading the Minutes of the Annual General Meeting, which were approved. The President then informed the meeting that instead of the customary Presidential Address he proposed to give a talk on the subject of "The Treatment of the Patient." He first stated, however, that the primary objects of the Society were to get students on to their feet to talk, and to give the keener men a chance of reading papers. He reminded them that there were prizes of £5 and £1 respectively for the best Paper and the best Casual Communication given by a student before the Society during the season. He pointed out that there was no occasion for them to be afraid of making fools of themselves, as they all met there on exactly the same level.

The President, proceeding with his paper as to "The Treatment of the Patient," remarked that the psychological side was of great importance. In fact, to start with it was more important to concentrate upon the treatment of the patient rather than the patient's teeth, and it was essential to obtain his confidence and esteem.

He explained that as much harm could be done to the patient by doing too much as by doing too little, and related a story of a patient who on her first visit to a dentist had had a large contour gold filling done. This trying ordeal had so hurt and frightened the lady that she had not returned to a dentist for 20 years. By this time her mouth was in a terrible condition, except for this one tooth, which had been filled and which was still in perfect condition.

He went on to say that there were many reasons why dentists lost their patients. These reasons, however, were usually unknown to the dentist, but the speaker stressed the point that cleanliness

was essential, especially with regard to hands, coat and surgery. It was important always to give the best possible work under the circumstances, but if for any cause one were compelled to do inferior work, an explanation should be given to the patient as to the reason for such work.

The President stressed the necessity of being sympathetic, firm and tactful. His advice was to listen to all that the patient had to say in spite of the fact that this was often very tiring, because one might learn important facts as to the history of the case. Make a habit of seeing that the patient is comfortable in the chair and look round the mouth carefully, avoiding touching sensitive places more than once.

He said that the primary aim of the dentist was to avoid pain, and if one had to cause pain always warn the patient beforehand. When using the drill for the first time always explain that it is under perfect control and that it can be stopped at any moment. Make sure that the instruments are sharp and, if possible, warm them before use. With regard to children, he said, the dentist must adjust himself to their level, if necessary talk "baby talk," and in this way get their confidence, then never deceive them.

The meeting terminated by the President inviting questions from those present.

D. E. H.

Reviews

Principal Drugs and their Uses. By A. L. MORTON, Certificated King's College Hospital, Visiting Sister-Tutor Finchley Memorial Hospital. Published by Messrs. Faber & Faber. *Price* 2*s.* 6*d.*

A SMALL book of a convenient size, it contains a very extensive list of drugs, their preparations in use, nature and appropriate doses.

There is also a list of the dangerous drugs, poisons and their antidotes.

A book that all nurses will find very useful, before and after they are registered.

Introduction to Pharmacology and Therapeutics. By J. A. GUNN. Published by Humphrey Milford, Oxford University Press. Fourth Edition. *Price* 5*s.*

PROFESSOR GUNN'S elementary text-book on Pharmacology has become universally popular amongst all students, no matter for what medical qualification they may be working. This book, which Professor Gunn has written as an introduction to the subject, is in point of fact sufficient for the Cambridge, Oxford, and London examinations if used in conjunction with clinical teaching. It is extremely clearly written and easy to read. This edition has appeared not on account of any necessity to alter the text of the 1932 edition, but because that edition has been so rapidly exhausted.

Medicine and Mysticism. By Dr. R. O. MOON. Published by Messrs. Longmans, Green & Co., Ltd. *Price* 2*s.* 6*d.*

THIS monograph of some 58 pages tries to illustrate how medicine has been influenced by the teaching of mystical writers throughout the ages. It is a subject which will appeal to comparatively few, probably to those whose interest in medicine is academical as well as practical. The thesis underlying this essay is the influence which the soul and mind are supposed to have over the body and its diseases. The author describes how in the early days medicine was surrounded by magic and superstition. How Hippocrates, the Father of Medicine, was the first to break away from these shackles retarding progress, and how through the Middle Ages the part played by Mysticism in medical treatment waxed and waned.

The book will serve its purpose if it reminds its readers that the physician should attempt to have some idea of the position of man in the universe which surrounds him. The only criticism which we can suggest is that in a book of this kind there should be a glossary of terms for the benefit of those who, perhaps, by reason of time or opportunity, do not as a rule delve into the philosophical aspects of medicine.

Practical Histology for Medical Students. By D. T. HARRIS, M.D., D.Sc., F.Inst.P. Published by Messrs. H. K. Lewis & Co., Ltd. Third Edition. *Price* 7*s.* 6*d.*

THE problem in teaching Histology is to induce the student to observe accurately that which he sees under the microscope. There is no surer way of doing this than by encouraging the student to draw what he sees. This book is arranged so that on one page the details of preparing the tissues for examination are described, and on the opposing page is space for drawing the tissues as seen under the microscope. The arrangement strikes us as being excellent, and it is not surprising that this book has reached its third edition. The text is clear and easy to follow. All the common histological preparations are described, so that we can recommend the book for use in all schools of physiology.

Bacteriology and Protozoology. By W. R. LOGAN, M.D., F.R.C.P.E., D.P.H. Published by Messrs. E. & S. Livingstone, Ltd. Fourth Edition. Part I. *Price* 1*s.* 6*d.*

FOR those who enjoy reading the Catechism Series in preparation for their Final Examinations, this book will be found extremely useful. The very fact that this is a fourth edition is a measure of its popularity. In this edition the text has been revised and brought up to date.

Aids to Osteology. By PHILIP TURNER and N. L. ECKHOFF. Published by Messrs. Bailliere, Tindall & Cox. Pp. 222. *Price* 4*s.* 6*d.*

THE subject of osteology is one of the happier selections of the editors of the "Aids" Series. It is a study which, more readily than most, lends itself to treatment in a pocket-book edition.

The book is necessarily without diagrams, and, in so much as this should compel the student always to have his bones with him when reading it, this is an advantage. The nomenclature of the Anatomical Society has been used throughout, and the descriptions are everywhere clear and concise. For purposes of revision its presentation is admirable. It is, however, a book which could be read with advantage from the start of the Anatomy course, and differs from so many of the "Aids" series in its wider application and greater value for other than examination purposes.

A sound knowledge of osteology is so essential in the study of anatomy that everyone may be advised to obtain as early as possible a separate book on the subject. This is mainly for convenient reference and should be supplemented by use of the larger text-books. "Aids to Osteology" serves this function admirably, and taken with what is seen in the dissecting room, should form a basis on which to build a sound knowledge of the subject. P.W.C.

Adolescence and Marriage. By ROBERT V. STORER. Published by John Lane, The Bodley Head. *Price* 8*s.* 6*d.*

THE author's division of this book into two sections greatly facilitates its review, for he has in so doing placed the division at a point where the book becomes of value for those for whom it is written.

It is inevitable that as a result of the enormous number of books on these matters written during the last few years that some overlap should occur, and this book, intended for the enlightenment of parents, present and potential, includes 146 pages on sexual ethics, the major part of which deals with the ethics of bygone civilisations, the modern aspect of which is for the most part repeated in the second section. While admitting that in the matter of sexual ethics we have something to learn from those of past ages, that aspect of the subject has been so ably dealt with by Havelock Ellis and others that its reiteration savours of the superfluous.

Mr. Storer has also devoted a great deal of his space in an endeavour to show that the modern conception of morals is at variance only with religion as interpreted by its more prominent followers, and not with the religion as promulgated by its Founder. While his intentions are, one is convinced, extremely laudable, it is an attempt which will have but little effect upon those at whom it is principally aimed, and as such could with advantage have been abandoned in a work of this sort.

The second part of the book will prove of much greater value, and will, no doubt, prove itself a boon to certain sections of the community. A certain amount of quotation from other authors is a necessity in a work of this kind, and Mr. Storer has selected them and blended them into his general theme with skill. The last chapter in the book is, perhaps, the most valuable, and I should say, outside a treatise on contraception alone, unique, but it is, perhaps, somewhat at variance with the general opinion that the so-called "safe period" should attain even favourable mention in a chapter on contraception.

In conclusion, though this is a book which is unlikely to appeal greatly to the well-informed medical man, it will, I am sure, be read, and be the means of educating a great many of the general public.

Common Gynæcological Conditions and their Treatment. By R. CHRISTIE BROWN, M.B., M.S., F.R.C.S. Pp. 114. *Price* 2*s.* 6*d.*

WITHIN the limits imposed by its size the book gives a clear enough account of gynæcological conditions commonly seen. Some of the brief descriptions form admirable summaries of their subjects. The book can be read in half an hour, and could be used with profit by the student before "vivas." It contains sufficient of the theory to be a very suitable text-book for nurses.

Notice

We regret that, owing to an oversight, in our last number the name of Messrs. Henry Kimpton was omitted from the list of publishers and booksellers who supply the Hospital. Messrs. Henry Kimpton, whose publications include such well-known books as Boyd's "Pathology" and Macleod's "Physiology," have for years supplied both medical and dental members of the Hospital with books.

Officers' Training Corps

IT would seem desirable to preface these remarks with a statement of the purposes of the Senior Division of the O.T.C., having particular reference to the Medical Unit.

Further, it should be emphasised that the O.T.C. is not an institution for the fostering of military aggression. It is intended to build up a reserve for use in case of a national emergency. The League of Nations Union has clearly shown that it recognises the need under present circumstances for the Territorial Army, which depends upon the O.T.C. for its officers.

Thus the main object of the Medical Unit is to give medical and dental students such military training as will fit them to take commissions in the Territorial Army, where they train the rank and file, or in the Supplementary Reserve. Such training naturally is of inestimable value to those who intend to enter the Medical Services of the Regular Army, Navy or Air Force, and is rewarded by six months' seniority for purposes of promotion, which is granted to all cadets who have obtained their Certificate B while in the Corps.

The work of the Unit is calculated to train men as medical officers, and consequently comprises a minimum of drill, most of the time being devoted to lectures and exercises in the principles of tactics, training and command of men, and instruction in the technical side of the military medical services.

While recruits with no previous service are taken through the whole course of training, those who have served in the junior division of the O.T.C. go straight on with the more advanced work. Here let it be stressed that the work of the Medical Unit is entirely different from, and should not be confused with, that encountered in Junior O.T.C. units, and it is sincerely hoped that none will be deterred from joining the Unit by memories of hard and uninteresting work in a school O.T.C.

No liability to military service of any kind is incurred by enrolment in the Officers' Training Corps.

The University of London O.T.C. Camp at Sandown, Isle of Wight, July, 1934.

Well, on Sunday, July 16th, the Medical and Infantry Units went into camp about half a mile from Sandown, on the south-east coast of the Isle of Wight, and to many of us this unknown spot was the first of many delights to come. There were some who arrived by car and motor-cycle, having crossed on the new car-ferry; others more prosaically by the Portsmouth-Ryde Ferry and thence by train, whilst others later literally descended upon us by aeroplane. It was surprising to discover how air-minded the folk of the Isle have become, for there are two separate air services to London running numerous journeys daily, and by those who had to travel to and from London during camp these facilities were greatly appreciated. The writer was fortunate enough to be able to fly in an open two-seater plane from Croydon to Portsmouth just before the end of camp to witness a sight of which more shall be told later.

During the following fortnight much interesting work was performed, including visits to a land fort where two of the new 6-inch guns intended for the defences of the Singapore base had been tested, and where one was at that time being dismantled. We were also privileged to examine a 9.4 gun, one of the heaviest type of land armament used. Towards the middle of our stay the Devon and Cornwall Heavy Brigade of Coastal Defence Artillery arrived and fired at targets towed by drifters out at sea between dusk and midnight daily, and those who were privileged to watch the firing from the fort will long remember their experience.

Another old disused fort was occupied by the Medical Unit and converted into a main dressing station; it may interest those who have some knowledge of such matters that it was found possible upon receipt of a warning to dismantle, close down completely this elaborate hospital, and load the equipment into lorries in approximately 14 minutes. To those who have not such knowledge it may be stated that the warning was the sound of the cook-house bugle, and this may explain much.

We were favoured with visits by many distinguished persons, but that which gave us most pleasure was the presence of our Honorary Colonel, the Earl of Athlone, Chancellor of the University. It was originally intended that he should arrive by air, but our robust late Colonel, the Vice-Chancellor, Professor Filon, came too, and thus may have arisen the decision to adhere to Mother Earth and the short passage across the water.

We also enjoyed visits from a member of the Army Council and numerous other Generals.

As usual, work finished promptly at 16.00 hours daily, and thereafter all did as they chose. It may be mentioned that the sea-bathing was excellent, and it was the rule rather than the

exception to have a dip before breakfast, and frequently also the day ended with another moonlight bathe.

Among the sights of interest encountered during camp one might count the *Victoria and Albert*, His Majesty the King's yacht, which lay at the berth from which we sailed at Portsmouth, and also the two German cruisers which at that time were visiting.

Endeavour lay in Camper & Nicholson's yard across the harbour, and sailed for the U.S.A. two days later. *Britannia* was seen in Cowes Roads. Off Sandown frequently to be seen were naval vessels, including the Aircraft-Carrier *Courageous* and various submarines.

The most interesting day for the Medical Unit, however, arrived two days before the camp broke up. By the kind arrangements of our C.O., Colonel Hope Carlton, all members of the Unit still in camp were transported to Portsmouth Harbour, where they went aboard *Victory*, followed by a visit to the Naval Museum. All then marched to take up an excellent position from which we saw the launch of the new light cruiser *Amphion*, and the cheers then given would not have disgraced the *Queen Mary* herself. Thence across the harbour to Gosport, where we were kindly shown over the Naval Hospital, the main portions of which are hundreds of years old and very stately. And so passed a most interesting and instructive day.

Next year we expect to be in camp at Shorncliffe, where the whole contingent, consisting of infantry, medical, artillery, sound-ranging and survey units meet once in three years; and it is probable that the infantry and medical units will visit Eastbourne in 1936. In this connection it might be mentioned that members of the Hospital and School Staffs will be heartily welcomed, and we would be most pleased if they could visit us at any time during annual camp, and particularly so if they can stay over the middle week-end and attend our ceremonial church parade, etc. If convenient, notice a day or two beforehand to the O.C. of Guy's Company, No. 2 Coy., would be much appreciated.

For the benefit of those who have previously been connected with our Unit, and any others interested, hereunder are given details from the report of the inspecting officer who visited us in camp last July :—

" *Drill.*—Stretcher exercises were carried out under command of N.C.O.'s of the contingent. They were well executed, and the N.C.O.'s displayed good knowledge and word of command.

" *Discipline.*—The Inspecting Officer spent a night in camp and was favourably impressed with the behaviour and general discipline. Saluting was good.

" *Turn Out.*—Very smart; clothing excellent.

" *General Remarks.*—The contingent carried out a field exercise embracing evacuation of casualties from Regimental Aid Post back to a Main Dressing Station. The various posts were located and established and worked out in great detail. ' Casualties ' were evacuated both as ' walking wounded ' and stretcher cases. The arrangements at the Advanced Dressing Station and Main Dressing Station were very good; in fact, the whole exercise was carried out with a keenness and enthusiasm which was a pleasure to see. The greatest credit is due to the instructors of the contingent and to their C.O. The contingent is right up to establishment, and a good proportion of cadets have obtained Certificate ' A ' and ' B.' "

And such remarks are not obtained without enthusiastic support from all members of the Unit.

Guy's men who are prepared to show keenness of this order will be heartily welcomed, and are even asked to join, so that Guy's may continue to hold the esteemed position which has always been hers in the Unit, and it is a fact worthy of note that the Medical Unit is now numerically stronger than the infantry, being actually up to strength. Nevertheless, there is room for good and keen recruits, and we hope that many will be with us at Folkestone in July next.

H. H. KENSHOLE (*Capt.*).

Sport

Rugby

Guy's v. Gloucester

ON Saturday, September 22nd, Guy's opened their season with a visit to Kingsholme, but were defeated by 5 goals (1 dropped and 1 penalty) and 5 tries (37 points) to 2 goals (1 penalty) and a try (11 points).

Prior to this game the Hospital had had very little match practice, and to be called upon to meet such formidable opponents as Gloucester without having played before this season was a very difficult task. However, in spite of the heavy score against them, Guy's did extremely well until they fell away towards the end of the second half.

Gloucester, who had already defeated Lydney and Moseley, fielded their strongest side, which included the internationals P. Hordern, A. D. Carpenter and G. C. Tanner. On the other hand, Guy's relied upon most of the players who

assisted last season, and the only freshmen included in the team were P. Fletcher and W. F. Frazer.

Guy's kicked off before a large attendance, and the home side, with the assistance of the wind, were soon pressing. Within five minutes they took the lead, when Tanner cross-kicked to Franklin and the latter raced over the line for a try, which Boughton converted.

The Hospital quickly retaliated, and, after a splendid run by Alexander, Wright was sent in for an unconverted try in the corner. Fast play followed, and the Gloucester forwards, following some clever work in the loose, carried the ball down the field and eventually Franklin touched down again, but the kick at goal failed.

So far the game had been full of incident, both sides playing a bright open game. Guy's were holding their own, and it was not long before they drew level. This came as the result of a splendid run by Giesen, who beat the opposition with ease and, on reaching the full-back, passed to Fletcher, who completed the effort with a good try, which Giesen converted.

The game continued on even lines, each side attacking in turn, and at this stage it appeared that the Hospital had the cleverer and faster back division.

After P. C. Hordern had made a determined effort to break through, Guy's were penalised and Boughton landed a neat goal.

Near the interval Meadows enabled Gloucester to go further ahead, when he raced through the Hospital's defence. When faced by the full-back, he gave Hordern an unopposed run to ground the ball behind the posts. Boughton easily added the goal points.

Following the change of ends Gloucester opened strongly, and in a few minutes Hordern made a fine run. After feinting to pass to the wing he gave an inside pass to Franklin, who finished up with a try in a good position, but the kick at goal was charged down.

Subsequent play was ragged and, owing to the slippery state of the ball, there were many mistakes in handling.

Gloucester's heavy pack were gradually taking the upper hand, and they were always well up to accept any cross-kick, wherever an attack was initiated. However, Guy's defended remarkably well, but eventually Hordern came into the picture again and a long pass of his gave James a splendid opening, which he accepted to score another try.

Within three minutes Gloucester added another seven points when Williams crossed for a try, and James dropped an excellent goal from a difficult angle.

Despite the heavy arrears, Guy's played up strongly, and fast forward work placed the home side on the defensive. For feet up, the City were penalised, and Alexander kicked a nice goal from 35 yards' range.

Near the end, the Hospital defence gave way to the onslaught of the Gloucester forwards, and Fifield and Welshman added unconverted tries before the whistle sounded " no side."

Team.—E. C. Sharp; C. G. Wright, P. C. Alexander, J. E. Giesen, I. McD. Stewart; J. van A. Steytler, V. H. Bowles; M. R. Kark, A. G. Heberlein, C. S. Darke, I. G. Robin (Capt.), H. H. Crabb, P. Fletcher, R. O. Yerbury, W. F. Frazer.

Guy's v. Coventry

AT Coventry on Saturday, September 29th, Guy's suffered another sharp reverse when they were beaten by 2 goals and 4 tries (22 points) to nil.

Despite the rain, which fell incessantly throughout the game and increased to a downpour towards the end, the teams proved superior to the conditions and gave a really bright exhibition.

Guy's were without their Vice-Captain, J. E. Giesen, and several changes were made in the pack which did duty at Gloucester.

On their own ground Coventry are an extremely difficult side to beat; they possess one of the best all-round sides in the country, and their pack this season is particularly strong. It speaks well for the Hospital forwards who, although overweighted, held their own in the set scrums and were only out-shone in the line-out.

The opening exchanges were fairly even, and then, after Davies had made a good run on the left, he was tackled splendidly by Sharpe and thrown into touch.

Following midfield play, Wright electrified the crowd by a magnificent run, but he was prevented from scoring by Kaye, who raced across from the other wing and brought him down with a flying tackle when within a yard or two of the line.

Coventry retaliated, and following a kick ahead by Davies, which placed the Hospital defence in difficulties, Kaye kicked over the line, but stumbled when in the act of touching down.

Keeping up the pressure, the efforts of Coventry were soon rewarded when Giles deceived the opposition and created a perfect opening for Machin, who registered an unconverted try.

The home side quickly increased their lead when Clark cleverly swerved past Steytler and Sharp to score behind the posts, and Giles had no difficulty in converting.

This reverse aroused Guy's, and for a time they were definitely superior; in one of the attacks which followed Alexander cut through the centre with a terrific burst and gave a perfect pass to Wright. However, Gilchrist, the full-back, brought off a magnificent tackle and prevented what might have been an excellent try.

Guy's managed to beat off a dashing raid by the City forwards and a splendid battle took place between the rival packs. A ding-dong struggle followed, but near half-time Clark broke through and sent Kaye over in the corner.

The interval was cut down to a minimum. Hardly had the game started than Coventry increased their lead. After Davies had worked his way to the Hospital line, the ball was sent back smartly to May, who slipped through the defence to score in an easy position, but Giles missed the kick at goal after " no charge " had been given.

As the game proceeded, the Coventry backs received the ball fairly regularly, and endeavoured to open up the game repeatedly, but excellent tackling by Steytler, Alexander and De Gregory kept them at bay.

A good run by Wright looked dangerous, but the attack faded out and the City forwards rushed the ball to the Hospital's 25. From the loose play which followed Davies emerged with the ball and ran in for an unconverted try.

It looked as if Guy's would score, when Wright eluded a tackle by Giles and had a clear run in front of him. However, Gilchrist managed to reach him and pushed him into touch near the corner flag.

Another promising movement by the Hospital back division was initiated by Alexander, and the threes made a determined effort to break through in Coventry's 25, but a splendid tackle by Walker ended the movement and the home side relieved. In the closing minutes Kaye scored a great try, receiving the ball some 40 yards out, he managed to side-step or swerve past four defenders and eventually touched down behind the posts for Walker to convert.

Team.—E. C. Sharp; C. G. Wright, C. G. Alexander, I. McD. Stewart, R. M. De Gregory; J. van A. Steytler, V. H. Bowles; M. R. Kark, P. K. Hopkins, A. G. Heberlein, I. G. Robin (Capt.), H. H. Crabb, C. S. Darke, W. F. Frazer, T. A. Hale-Monro.

Guy's v. United Services (Portsmouth)

PLAYING at home for the first time this season Guy's gained a well deserved victory by 2 goals and 2 tries (16 points) to 2 goals (1 penalty) (8 points).

There was an all-round improvement in the Hospital fifteen, and their success should be a good stimulant. Several changes were made in the pack and undoubtedly they gave a much better exhibition than in the games at Gloucester and Coventry. The Services, led by J. W. Forrest, fielded a very heavy set of forwards, and the Hospital pack did exceptionally well in holding their own in the set scrums.

Guy's held a decided advantage in the three-quarter line, and the combination of Steytler, Giesen and Alexander was a constant source of danger to the visitors. Steytler has improved considerably since last season, and his kicking and tackling were quite a feature.

With Bowles not up to his usual standard, Cotman, the Services scrum half, was always feinting and weaving a way through, but many of his passes out were badly directed, and when he did get his three-quarters away a dropped pass sooner or later prevented any movement that looked like a try.

The marking and tackling on both sides was particularly good, and the Hospital had to make the most of their chances of scoring in order to win a close match.

The first half was well advanced before Guy's opened the scoring. Prior to this, Giesen made an excellent effort to drop a goal and only just missed. Then a run by the three-quarters proved as dangerous as it looked. A movement started by Steytler was carried on by Alexander, who created an ideal opening for Giesen to score behind the posts, and Alexander easily added the goal points.

The reply of the Services was as sudden as it was unexpected. A rush by the visiting forwards carried play to within a few yards of the Hospital line. From the loose play that followed Dustin scored a good try after a corkscrew run through a bunch of forwards, and Forrest succeeded with the kick at goal to make the scores level. The defence on both sides had the better of matters until Giesen was again put over the line by Alexander after Wright had broken through.

Following the interval the Services made desperate efforts to draw level, and a ding-dong struggle took place between the rival packs. However, Guy's staved off the attacks and eventually a snap-movement between the Hospital threes rapidly transferred play to the other end, and once again Alexander paved the way for another score when he sent Wright in behind the posts, but the kick at goal failed.

Forrest having had three attempts to score from penalties, succeeded eventually with a splendid effort from a position just inside his own half. Just prior to this Sladen made a great effort to

drop a goal, but the ball was touched in flight and no score allowed.

In the closing minutes Alexander completed a splendid afternoon's work by registering a magnificent try after excellent combination and a fine run with Giesen. Alexander also added the goal points.

Team.—E. C. Sharp; C. G. Wright, P. C. Alexander, J. E. Giesen, I. McD. Stewart; J. van A. Steytler, V. H. Bowles; P. Fletcher, A. G. Heberlein, M. A. Kark, E. R. Davies, I. G. Robin, (Capt.), C. S. Darke, G. J. van der Merwe, T. A. Hale-Monro.

Hospital Information, etc.

Notice

THE LANDON TEA FUND

Contributions are asked for the Landon Out-Patient Tea Fund this year. The Out-Patient Tea Fund, which was started many years ago by Mr. T. W. Landon, provides every year on Chrismas Day a tea and an entertainment for 600 children who have been attending the Hospital during the year in the Out-Patient Department. It is very popular and much appreciated by the children. It has not been found necessary in recent years to make a regular appeal as there was a considerable sum in reserve. Unfortunately, during the past year the Fund has lost a sum of approximately £500 owing to the defalcations of the late Clerk to the Hospital, and there is only available at the present time the sum of approximately £32, the cost of the tea being in the neighbourhood of £80.

It will be seen that large subscriptions are not necessary, but if some small assistance is given to the Fund this year the Tea Fund Committee will be able to arrange the Tea as usual and not disappoint the children, who look forward to this entertainment with great excitement.

FIREWORK DISPLAY

Please bring your friends to a Firework Display which will be held on November 5th at 8 p.m. at the Clubs' Union Ground, Honor Oak Park (by kind permission of the Clubs' Union), in order to raise funds for urgent repairs to the Nurses' Cottage. Tickets are 1*s.*, and are obtainable from any Staff Nurse.

Refreshments may be obtained from the Coffee Stall.

Pass List

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

L.D.S.

FIRST PROFESSIONAL EXAMINATION.

PART I.

Dental Mechanics.

J. C. Robertson
C. G. Wright
P. M. Calder
N. A. McCormick
W. R. C. Brown
H. M. D. Archibald
R. J. Belcher
D. F. Denniss
P. S. P. Jenkins
F. K. Johnson
H. J. Lewis
K. R. D. Porter
J. C. Prosser-French
B. W. P. Roberts
D. B. Sedgwick
E. L. Sutton
F. B. Gambles
S. W. Guilding
D. C. Howe
G. P. L. Taylor
W. K. Weighell
W. Wylde

PART II.

Dental Metallurgy.

J. C. Robertson
C. G. Wright
P. M. Calder
N. A. McCormick

PART IIIa.

Anatomy and Physiology.

J. C. Robertson
W. R. C. Brown
T. D. H. Ridsdale
M. Wykes
A. B. Brears

PART IIIb.

Dental Anatomy Physiology.

C. G. Wright
A. O. Chick
C. H. Greaves

NEW REGULATIONS.

PART I.

Dental Mechanics and Dental Metallurgy.

P. G. Archer
J. W. S. Harvey
N. L. Rowe
E. C. Sharp
J. E. Tudor
J. L. Harrington

PART II.

Anatomy and Physiology.

G. C. Blake
P. Borghys
C. A. Chaundy
N. M. Cripps
P. Ellis
S. Farro
D. R. Finch
R. L. Greenfield
J. B. Hardie
R. W. Harvey
J. R. Kemps-Roberts
D. F. Mace
S. G. Miron
R. D. Ogston
A. Rand
D. J. R. Shannan
H. B. Shay
G. C. Sprigings
B. F. Vellender
D. L. Goodridge

PART III.

Special Anatomy and Physiology.

P. H. Crampton
J. L. Harrington

Appointments

G. Nesbitt Wood, Police Surgeon, Hastings and St. Leonards.

Change of Address

G. Nesbitt Wood, "Crofton," Collier Road, Hastings.

L. H. Smith, 19, Wimpole Street, W.1. *Langham* 3137.

Gerald Lewin, 34, Devonshire Place, Wimpole Street, W.1. *Welbeck* 3256.

Birth

NASH.—On 7th October, 1934, at 20, Devonshire Place, W.1, to Mrs. R. A. Nash (née E. M. Pike)—a son.

Death

CHAMBERS.—On October 1st 1934, at Clare, Suffolk, Ralph Shelton Chambers, aged 36.

EDS. { D. P. K. / P. W. C.

GUY'S HOSPITAL GAZETTE

A Journal of Medicine, Surgery, Dentistry and Hospital News.

PUBLISHED FORTNIGHTLY.

Volume XLVIII 10*th November* 1934 *Number* 1208

PASSIM

WE regret to hear that recently there has been a complaint from the Blood Transfusion Service to the Hospital. The help of the Service is indispensable to the Hospital in the treatment of large numbers of patients, and any friction between us and a body which performs such good work would be very unfortunate.

This year we have already had over 340 transfusions from donors belonging to the Service. In their letter five instances were quoted in which the donors had not been satisfied with their treatment in the Hospital. In only two of these do the donors appear to have been really inconvenienced, and in both cases the complaint was that there had been difficulty in getting into the vein of the donor. Considering how extraordinarily difficult it can be on occasions to get into a vein at the first attempt, we do not think that two cases in 340 reflect anything to the discredit of those concerned.

The old contention that too great a number of Group IV's were required by the Hospital has not been repeated, and in justice it could not be. Every donor on first coming to the Hospital is surprised when he is cross-grouped, and we appear to be one of the few hospitals who consider it necessary to do so.

It is with the wider implication of the letter that we are most concerned; that is that full consideration for their feelings has not always been shown to the donors. If this indeed has ever happened, it is inexcusable, but we feel that, at the worst, it can have been the feelings of only a very few donors which have been hurt.

▭

ON January 1st, 1935, Dr. Witts leaves us to take up his new position at St. Bartholomew's. He has accepted an invitation to fill the chair of Medicine in the Medical Unit there, recently vacated by Professor F. P. Frazer when he went to the Post-Graduate School at Hammersmith. The Hospital will suffer a considerable loss when Dr. Witts goes. He came to us in 1929 from the London Hospital Medical Unit already well known. Since then he has given his Goulstonian Lectures, a group of anæmias described by him now bears his name, and he has become one of our leading authorities of blood diseases. He will be greatly missed in the Hospital, and particularly by the editors, past and present, of the *Gazette*, whom he has never failed to oblige with articles which were models of clarity and concision.

In his going to St. Bartholomew's we welcome a further sign of a closer co-operation between the London Voluntary Hospitals.

▭

WHEN we see the dense congestion of Surgical out-patients—row upon row of waiting patients—we find it difficult to see how adequate treatment can be given in the time available. The greatest burden falls on the Registrar, who is often in the unfortunate position of being wanted in several places at once—in the Minor Operating Theatre to reduce a fracture; in the plaster room, on the ground floor, to fix a fracture in plaster; or in another room to supervise the injection of varicose veins. Sometimes, by force of circumstances, the varicose veins are left almost entirely to the Dresser or Ward Clerk, with not always very happy consequences. The difficulty of treating ambulant fractures is one of the main causes of the congestion, for the nurses have to spend a great deal of time hunting for X-rays and reports instead of directing

the traffic of patients, and the Registrar has to spend much time getting from one place to another. As a result, the work does not proceed as smoothly as in other Out-Patient Departments. It seems to us that there is a great deal to be said for the reintroduction of Fracture Out-Patients. Not only would some of the congestion of Surgical Out-Patients be relieved, but the treatment of fractures in the Hospital could be supervised under the direction of a single man instead of, as now, when a patient may have to pass successively from A.H.S. to Registrar to Surgeon before he is discharged.

THOSE of our readers who are not in intimate touch with the Hospital may not have heard yet of the sudden death of Miss Sillitoe on October 30th. She had been Matron of the College since 1913, and she was therefore known by many generations of Guy's men, who will find it difficult to think of the College without remembering the efficient way in which she looked after their comfort. Hers was no easy task, and her kindness and consideration will be greatly missed. A Memorial Service was held in the Chapel on Friday, November 2nd. We would like to take this opportunity of expressing our deepest sympathy with her relatives.

THOSE intending to join the "Help Yourself" Society by purchasing one of the "Help Yourself" Journals should do so as soon as possible, as the membership list closes after November 17th. By joining the Society a member becomes automatically eligible for a chance of receiving a valuable Christmas Gift. There are all types of gifts, ranging from £1,000 worth of goods at Harrod's to a gentleman's felt hat. Even if one does not obtain a "gift," the journal will provide more than 2*s*. 6*d*. worth of amusement. The profits secured from the sale will be distributed amongst the Voluntary Hospitals, and, we wish while asking our readers to join the Society, to record our thanks to the Stock Exchange Dramatic and Operatic Society for promoting the scheme. The journal can be purchased at the Appeal Office.

Obituary

F. V. BEVAN-BROWN, M.D.Lond., M.R.C.P.

THE news of the death of Dr. F. V. Bevan-Brown, from uræmia, at his home in Christchurch, New Zealand, will have come as a shock to all his friends and contemporaries. A few years ago on a visit to this country he seemed very much his old self, and but little altered by the years, and his energy and enthusiasm were apparently undiminished until a very recent date.

In his student days he was much beloved. "Fritz" or "Bevan" he was familiarly called, and we all knew him for a dear fellow, of outstanding kindliness and honesty of character, and imbued with strong human sympathies and devotion to his profession.

He entered the Medical School in 1909. In 1910 he was bracketed equal for the Wooldridge Prize in Physiology and awarded a Certificate for the Michael Harris Prize in Anatomy. He qualified M.R.C.S., L.R.C.P. in 1913, and completed his final M.B., B.S.Lond. in 1916; in 1920 he obtained the M.D.Lond., and in the same year M.R.C.P.Lond. In 1919 after war service on the Western Front and in Mesopotamia, Bevan-Brown returned to Guy's and held the appointments of House Physician and, later, Medical Assistant. He then went back to New Zealand, and set to work to build up a consulting practice in general medicine, and was instrumental in organising the local Medical Society, of which he held the Secretaryship. He was honorary physician to the Christchurch Hospital.

In his life and work he served the best traditions of his profession, and set himself a very high ideal; indeed, his conscience was so exacting that his more intimate friends were aware that his work constantly made excessive demands upon his reserves.

Bevan-Brown was unmarried. To his family, which includes two brothers in the medical profession, we offer our sincere sympathy. New Zealand medicine has suffered a heavy loss in his early demise.

Experimental Influenza

A Paper read to the Physical Society, Guy's Hospital, by P. P. Laidlaw, Esq., F.R.S.

MR. CHAIRMAN and GENTLEMEN,—I consider it is a great privilege to be here this evening and to talk to you for a short while on the subject of Experimental Influenza. This is a subject which has never been far from my thoughts since the early part of 1933, for about that time my two colleagues—Wilson Smith and C. H. Andrewes—and myself began to hope that we had discovered a method of studying epidemic influenza in laboratory animals. I propose to-night to give you some brief account of previous experimental work on this subject, and also refer to our own work in more detail, in the hope that this may interest you and serve, perhaps, as a basis for discussion of an exceedingly interesting subject.

Now I do not know what may be the current teaching in the Hospital as to the ætiology of epidemic influenza, but I think it is fair to state that round about 1918 the majority of workers regarded the small, hæmophilic bacillus, discovered by R. Pfeiffer at the end of the pandemic of 1889-1892 as the causal organism; though it must be added that the virus hypothesis was not without supporters. The pandemic of 1918-19, which is calculated to have cost the world 15,000,000 lives, raised the question of the ætiology of influenza in an acute form, and this, in turn, led to a great deal of new work. But, in spite of intensive work and experiments on animals and men, the question is not yet decided. Let us review briefly the main findings for and against each view.

A.—PFEIFFER'S BACILLUS OR *HÆMOPHILUS INFLUENZÆ*

If *H. influenzæ* is the primary cause of epidemic influenza the bacillus should be constantly present in influenza cases (not necessarily in pure culture) and relatively rare in normal subjects. Previous to 1918 this was held to be the case, but in the beginning of the epidemic in 1918 there were quite a number of cases of clinical influenza from which competent bacteriologists failed to recover influenza bacilli. With the increase in the severity of the epidemic and the rise in proportion of cases of purulent bronchitis and bronchopneumonia the percentage of demonstrable infections with *H. influenzæ* rose to nearly 100 per cent., and it seemed that the claims for this organism were better towards the end of the epidemic than at the beginning. Attempts have been made to explain the failures to recover influenza bacilli from the early cases in the epidemic by suggesting that the methods of cultivation were faulty or that the organism was really present initially, but that it died out early in the disease. On the whole, these explanations do not seem to be justified, and I am convinced that cases of epidemic influenza do occur in the absence of Pfeiffer's bacilli. It is quite true that this organism requires special conditions for its successful cultivation and that we now have much better methods for its isolation than were available at the commencement of the 1918 epidemic; but this improvement in technique, which increases the positives in frank cases of influenza, has led in turn to a great increase in the percentage of isolations from non-influenzal cases. It is now clear that organisms indistinguishable from Pfeiffer's bacilli can be isolated from a significant percentage of normal persons and from a still larger proportion of cases of measles, whooping-cough, phthisis, etc. The proportion of carriers is estimated very differently by different workers, and probably varies from time to time and place to place, but any number up to 50 per cent. of a population may carry this organism in the naso-pharynx. Fleming and McClean (1930) consider that the bacillus can be detected in every human being if special methods are adopted for its isolation. The records, however, during the epidemic show that it was easy to isolate this organism in almost every case of influenza during the later stages of the epidemic, and that its occurrence in the normal population was much less common.

Direct experiment with pure cultures of *H. influenzæ* on animals might be expected to assist us in deciding whether this organism was capable of inducing influenza, but the results are disappointing. Inoculation of small laboratory animals with cultures shows us that many strains of influenza bacilli are pathogenic, and that other strains are relatively harmless, that sub-cultivation on artificial media leads to a rapid and usually progressive loss of virulence, and that admixture with other organisms—such as pneumococci and streptococci—appears to increase the virulence of both organisms. The disease induced by the inoculation of influenza bacilli usually bears no resemblance to influenza as we meet it clinically. However, a faithful mimicry of a human disease in animals is unusual, and if we were to insist on this before recognising any organism as causal we would be in great difficulties. We would be compelled

to deny that *B. typhosus* was the cause of typhoid fever and that the cholera vibrio induced cholera.

Parker (1919) and McIntosh (1922) described toxins produced in liquid cultures of *H. influenzæ* which can cause severe symptoms—even death in rabbits and guinea-pigs. McIntosh (1922) found that the lungs post-mortem showed areas of œdema, hæmorrhage and emphysema, and these were regarded by him as simulacra of influenza lesions.

The outstanding animal experiments which support the view that *H. influenzæ* is the causal organism of influenza are those of Blake and Cecil (1920). These two workers started with an old culture of influenza bacilli which, though isolated originally from a case of influenza in man, had become almost avirulent. Initially one agar plate of culture failed to kill a mouse. The organism was passed successively through 11 mice and 13 monkeys. This procedure raised the virulence, and it was now found that 0.1 c.c. of a suspension from a " chocolate-agar " slant would kill a mouse in two days. Employing this strain of unusual virulence, these two workers inoculated monkeys, *Macacus syrichtus* (*philippinensis*) and *Cebus capuchinus*, by instilling 1 to 2 c.c. of culture up the nose and into the mouth, or swabbing the cultures on to the nasal mucosa. Twelve monkeys in this group all became acutely ill within a few hours. They remained prostrate at the bottom of their cages and usually showed little or no fever; they developed rhinitis, tracheitis and tracheobronchitis, and three of the group developed bronchopneumonia. If left alone the monkeys usually recovered, but from those killed at the height of the disease *H. influenzæ* could be recovered—often in pure culture. The nasal discharge also contained the specific organism. Ten monkeys were injected intratracheally with 1 to 5 c.c. of virulent culture, and in this group there were seven cases of bronchopneumonia.

The appearances of the lungs, both naked-eye and microscopically, as described by these workers, are very similar to those recorded by others for influenza in man, and there can be no doubt that a specially virulent *H. influenzæ* strain can induce in monkeys a post-mortem picture almost exactly analogous to that found in many cases of influenza in man. I remember reading the papers just after they appeared, and was almost convinced that the ætiological agent of influenza had been discovered. But there are certain points which appear to me now to raise doubts. First, in Blake and Cecil's experiments there is no true incubation period, and, secondly, there is no evidence that the disease will spread from monkey to monkey by simple contact. The dose of organisms passing from one animal to another in contact infection is probably very small, certainly very much smaller than those employed by these two experimenters. Again, the very low grade of fever (unless bronchopneumonia intervened) is unusual in the human disease. Finally, there are other experiments on human volunteers which seem opposed to the conclusion many would like to draw.

I have collected from the literature 102 cases of experiments on man with cultures of *H. influenzæ*. Most of these were deliberate experiments on human volunteers, but a few were accidental laboratory infections. In 18 instances illness followed the deliberate or accidental implantation of organisms into the upper respiratory tract, and ten of these were regarded by the recorders as examples of influenza. In other instances they were classed as " colds " or obscure illnesses of a doubtful nature. In many experiments very large doses of organisms were employed, and recently isolated and therefore presumably virulent cultures were included. In other instances again mixtures of Pfeiffer's bacilli with other organisms isolated from influenza cases were inoculated as a mixture, but the results were still negative.

I do not propose to weary you with detailed accounts of all these experiments, but some of the accidental infections are interesting. Kljujewa was assisting Kaschajewa (1928) while the latter was injecting a mouse intravenously. At the critical moment the mouse moved, the syringe became detached from the needle and the contents of the syringe were sprayed into Klujejewa's face and a few drops were scattered into Kaschajewa's eye. The former worker became ill in 14 hours and suffered an attack of what was believed to be influenza. The latter had a mild and indefinite illness. Another assistant was instilling a suspension of Pfeiffer's bacilli into a rabbit's nose, and considerable sneezing with spray resulted. Droplets were deposited on the assistant's face, and a " severe cold " resulted after a very short incubation period (Walker, 1928). Four other involuntary experiments are recorded by Park and Cooper (1921), where four workers sucked up a suspension of bacilli inadvertently into the mouth. Two of these suffered illnesses which were regarded by Park as " colds," but which others might class as influenza.

In 1921, Cecil and Steffen conducted on men an experiment similar to that of Blake and Cecil on monkeys. Six volunteers were given influenza bacilli and two of these received directly a peritoneal exudate from a monkey which died from *H. Influenzæ* peritonitis deliberately induced. The dose of exudate was 0.1 c.c. Cultures were given to the others in larger doses. All recipients

sickened after a few hours, three suffered from headache, malaise and vague pains in the chest. All showed symptoms of rhinitis, pharyngitis and tracheitis. The illness lasted about four days, during which influenza bacilli could be recovered from the secretions. There was no fever except for one case which received peritoneal exudate. Sterile filtrates from *H. influenzæ* cultures were without effect on two further volunteers. Looking at the whole series it is doubtful if any of the cases should be termed " influenza," and one is inclined to call them " severe colds." I may say that the authors do not take this view, but regard them as influenza.

If we try to sum up the experiments on men it must be borne in mind that many of the experiments were conducted during or soon after the epidemic, and it is possible, some would say probable, that the volunteers were unduly resistant to the organism under study, even though attempts had been made to guard against this in selecting the volunteers. It must be remembered that the doses of bacteria administered were usually far in excess of what could be picked up by droplet infection from naturally occurring cases. I think we must conclude that the average man is often resistant to infection with pure cultures of *Hæmophilus influenza*. This is not at all surprising when we remember that study during recent years has shown that a large proportion of the human population are carriers of influenza bacilli. It is highly probable that carriers, and possibly those in close contact with these, have a definite resistance to invasion of their tissues by this organism. On the other hand there is evidence to show, both in man and monkeys, that if *H. influenzæ* does invade the mucous membrane of the naso-pharynx and, later, the surfaces of the lungs very serious illness ensues, and Blake and Cecil's experiments show that the post-mortem pictures in monkeys may mimic those found in human influenza with considerable fidelity. It is precisely in the matter of invasion that the evidence is weak. Blake and Cecil only obtained positive results with a culture of exalted virulence and many strains of average virulence seem unable to get a firm foothold and spread in human beings.

B.—THE VIRUS HYPOTHESIS

Under this hypothesis the primary infecting agent in epidemic influenza is a minute organism which is small enough to pass through the pores of filters which are designed to hold back all visible bacteria. The infecting agent can, it is supposed, induce a disease by itself, but, in addition, it may lower the resistance of the tissues of the respiratory tract to other organisms and thus facilitate the production of *H. influenzæ* or streptococcal pneumonia.

Material from influenza cases is nearly always contaminated with large numbers of visible bacteria, and therefore, for strict virus work it is necessary to remove these by filtration. I do not wish to discuss the principles of filtration, but it must be mentioned that filtration methods have greatly improved during the last few years, and it is possible that some of the past failure to transmit disease with filtrates may have been due to imperfect filtration methods.

Attempts have been made to cultivate the hypothetical virus from filtrates, but the recorded results cannot be said to be satisfactory. At present we have no knowledge of a virus apart from the production of disease and the evidence regarding the pathogenicity of cultures is uniformly imperfect. Similarly the transmission of disease to animals by means of filtrates has been disappointing, for, although some success has been claimed, none of the records will withstand critical examination.

For both lines of investigation a suitable experimental animal was wanted, *i.e.*, a species which was known to be susceptible to human influenza. As this ideal was not forthcoming, attempts were made to test the virus hypothesis by experimenting on men.

The experiments on men designed to test the virus hypothesis are very difficult to interpret. It must be remembered that all these experiments were necessarily conducted at the time of an epidemic, for in the absence of an epidemic no material containing the hypothetical virus is available for experiment. All volunteers are therefore drawn from a suspect stock; they may be immune from the start, or incubating the disease or may contract infection from an unsuspected source.

Nicolle and Lebailly (1918) filtered dilutions of influenza sputum through Pasteur-Chamberland filters and inoculated human volunteers. Two men were injected with filtrates subcutaneously and developed, after six days' incubation, illnesses which were regarded as influenza. Two monkeys, *Macacus sinicus* and *cynomolgus*, were injected subcutaneously and sub-conjunctivally with unfiltered material and developed mild illnesses. Three further volunteers were injected with filtrates intravenously and suffered no ill effects. The influenza-like illness of the two volunteers did not pass to contacts.

D. de la Riviere (1918) also records one positive result with blood filtrate injected subcutaneously into himself.

Yamanouchi, Sakakami and Iwishima (1919) record the results of experiments on 52 volunteers. So far as I am aware, no full account of these experiments has been published in any European language. Twelve subjects were inoculated intranasally with emulsified sputum from influenza cases and twelve further subjects were inoculated with filtrates of the same material. Six of these twenty-four volunteers were convalescent from recent attacks of influenza and showed no reaction; the remaining eighteen all developed influenza after two or three days' incubation. Eight volunteers were inoculated with blood filtrates intranasally, and all gave positive results. Four men were injected subcutaneously with sputum filtrates and four more with blood filtrates, and all of them developed influenza in the course of three days. Fourteen men were inoculated with mixed cultures containing large numbers of Pfeiffer's bacilli together with various other organisms cultivated from influenza cases and showed no reaction. There is nothing in the brief account available to indicate what precautions were taken to guard against errors due to experimenting during an epidemic, and this is a criticism which is very difficult to meet.

Three very carefully conducted and thorough experiments were carried out on naval volunteers in the United States in 1918-19 with material from epidemic influenza by Drs. MacCoy, Rosenau and others (1921). In the first series, 64 volunteers were secured from the Naval Training Station on Deer Island, Boston, and were drafted to Gallups Island, a small island in the neighbourhood, where isolation could be controlled. The volunteers were inoculated in batches of ten with material from cases in Boston and on the U.S.S. *Yacona*, on which 84 per cent. of the crew went down with influenza. Nasopharyngeal washings, sputum, etc., with all the mixed flora they contained, were sprayed into the throats of twenty men, and filtrates of these washings were sprayed intranasally into ten men, and injected hypodermically into ten further volunteers. No case of influenza resulted. Blood from influenza cases at the height of the disease failed to infect ten volunteers. Direct contact between volunteers (who had been given the unfiltered washings from other cases) and active cases of disease failed to infect ten men. Direct transfer of secretion from influenza cases failed to infect twenty volunteers. All these volunteers were under 34 years of age and in the best of health. They had all survived an epidemic of influenza which swept over Deer Island, but 54 of them denied having suffered during the epidemic. It is quite possible that these subjects were unduly resistant, since they escaped the epidemic and that all the convalescents were immune. The data regarding poliomyelitis show that many men are infected in an epidemic in addition to those who suffer an overt disease, for neutralising antibodies to the virus are found in many subjects who have shown no sign of illness. A similar condition of affairs has been shown for typhoid epidemics.

At about the same time another series of experiments was conducted on fifty volunteers from Yerba Buena Island Naval Training Station near San Francisco by Drs. MacCoy and De Wayne Ritchie. This island was rigidly quarantined, and at the time of the experiment had not suffered from the pandemic of influenza. The volunteers were transported to Angel Island, as required for experiment, and rigidly isolated there. Material for experiment was collected and taken to Angel Island as it became available. There was always some delay in transport, but this hardly ever exceeded, and was usually less than, five hours. Thirteen volunteers were sprayed with crude secretion from influenza cases and three cases of tonsillitis ensued, but no influenza. Thirteen other volunteers received filtrates of these crude secretions and no illness resulted. One volunteer received whole blood from a case of influenza; others were inoculated into the eye and one subcutaneously. No influenza was produced.

An adequate reason for the complete failure to transmit influenza in this series of experiments is very difficult to find, and the position is still more puzzling since Dr. MacCoy told me the other day that some of the volunteers experimented on subsequently went down with influenza after they had returned to duty and when the pandemic ultimately gained access to the Yerba Buena Training Station.

A third series of experiments was conducted on volunteers from Deer Island in February-March, 1919, with material obtained from Boston. Experiments on forty-nine men gave three cases of influenza-like illness and several cases of tonsillitis when unfiltered material was used as inoculum. The influenza did not pass in series, whereas the streptococcal tonsillitis passed with ease. It is, perhaps, suggestive that successful transfer of infection only occurred with material collected from influenza cases quite early in the disease, and it is possible that infectivity in influenza is maximal only at the onset of the symptoms.

In none of the three series of experiments on naval volunteers in the U.S.A. did cultures of Pfeiffer's bacillus induce any illness in recipients. Mixed strains, including recently isolated strains, were tested on thirty-five subjects. No influenza resulted.

Leschke (1919) described three cases of influenza in volunteers following injection of primary cultures of "influenza virus bodies."

Wahl, White and Lyall (1919) sprayed sterile filtrate from influenza lung, obtained some hours after death, into the pharynx of two volunteers, and no illness of any kind developed.

Friedberger and Konitzer (1919) failed to transmit disease to twenty-six volunteers when thirty-five filtrates of sputum and exudate from influenza cases were sprayed into the nose and pharynx.

Lister and Taylor (1919), working on an island off South Africa, failed to obtain infection with filtrates of influenza material in six men, but had three cases of illness, presumably influenza, when five men were given unfiltered throat washings and sputum.

The interpretation of these contradictory experiments is very difficult. Those most carefully conducted appear to be the American and South African, but they certainly cannot be said to be strong support for the virus theory. The entire series show how difficult it is to do satisfactory work with human volunteers, particularly at the height of an epidemic or when it is waning. They also seem to me to indicate that man is far from the ideal experimental animal. Man lives too long. He develops resistance and varying degrees of immunity to a host of diseases. It is thus impossible to be sure that the subjects of experiment are susceptible. This could only be secured if a stock were bred in strictest isolation for the express purpose of experiment. In the work on dog distemper, Dunkin and I had the great advantage of a small supply of dogs specially bred in strict isolation for all crucial experiments, and the value of such a stock for work of this kind can hardly be over-estimated.

(*To be continued*)

The Nature and Relief of some Common Gastric Symptoms

A Clinical Lecture by Dr. J. A. Ryle, F.R.C.P.

THE science of symptomatology, whatever appeal it may make to our philosophy, is essentially a practical science. Its concern is with common things, for symptoms are always and everywhere available. If we analyse our diagnostic achievements we find, with the passage of time, that they depend more often upon a proper appreciation of subjective symptoms than upon any special skill or training in the methods of physical examination. To accurate history-taking and the study of personality, full credit must be given, and the routine overhaul must never suffer neglect, but a detailed interrogation in respect of the patient's own sensations is the physician's surest tool.

And yet the science of symptomatology has been accorded little systematic attention. Certain great minds, it is true (I refer particularly to Hilton, Head and Mackenzie) have greatly illuminated the most important of all symptoms—pain; and Mackenzie will, perhaps, be as much remembered for his insistence on the value and meaning of symptoms in general as for his remarkable contributions to cardiology. Hurst, in our own School, has set an example of brilliant research in his Goulstonian Lectures on the Sensibility of the Alimentary Canal. In undergraduate teaching, however, and the medical text-books the subject has been too cursorily treated.

In practice only a very small proportion of our patients are found to present frank physical signs, and when they do so their disease is active or advanced. But no patient, unless it be for purposes of life insurance or a health certificate, comes to us without a symptom. It is true that we all learn to associate certain symptoms or groups of symptoms with certain diseases, disorders, histories and temperaments, and so by degrees make better use of them. But we should not rest content with this knowledge; we should seek to discover the fuller physiological significance of each symptom, for then its value is doubled.

If physical signs may be called the morbid anatomy of bedside medicine, symptoms are its morbid physiology, and they usually precede the development of signs. This is well shown by any familiar symptom, such as angina pectoris, in the presence of which we are often entitled to surmise the presence of coronary arterio-sclerosis long before the stethoscope or the electrocardiograph can demonstrate organic change. Each symptom expresses a perturbation of some normal function, an exaggeration or a depression of a healthy vital reflex. The dyspnœa of exertion in health is physiologically allied to the dyspnœa of heart disease at rest. Many of the symptoms of disease, such as dyspnœa, dizziness and nausea, can be reproduced by suitable overactions or inhibitions artificially induced in healthy subjects.

In no group of diseases do we have to rely more upon symptoms than those collected under the general heading of the Dyspepsias. The descriptions of their feelings which patients furnish may be vague or confusing at times, but this is partly our own fault, because we are not sufficiently at

pains to develop a proper technique of interrogation.

The majority of the dyspepsias are due to errors of gastric or œsophageal function occurring independently of organic disease, but even in the presence of organic disease we are commonly, from the nature and size of the lesion and the inaccessibility of the viscera, deprived of the advantages of objective evidence.

Before directing attention to the six symptoms which it is my purpose to review, let me remind you briefly of what is known of the normal sensibility of the stomach. Appetite, hunger, satiety and repletion are all normal sensations, and in part, at least, appreciated by the stomach itself. To the best of our belief the mucosa and peritoneal coats of the stomach are almost or quite insensitive to all those tactile, thermal, chemical and painful stimuli which the skin and the mucosa of the mouth so readily appreciate. The muscular coat, however, is appreciative of alterations in tonic or peristaltic activity and states of " stretch," and Carlson clearly demonstrated that the hunger sensation is accompanied by and synchronises with increased peristalsis. With exaggerated degrees of muscle-tension pain occurs.

I propose to consider in turn Hunger-pain, Flatulence, Heart-burn, Acid Regurgitation, Water-brash and Hiccups. The first and the third of these are wholly sensory phenomena. In the remainder there are sensory discomforts with objective associations. In the last-named only are the attendant discomforts remote from the upper alimentary tract, although this is commonly, if not invariably, their seat of origin.

In each case I shall discuss the nature of the symptom, its common morbid associations, what we know or can at present infer in respect of its physiology, and lastly, its treatment.

HUNGER-PAIN

Hunger-pain is experienced in the epigastrium. It is usually described as " gnawing " in character or as a " bad ache," and it is frequently associated with a sensation of sinking, hollowness or emptiness. It is fairly strictly localised, but occasionally an attendant discomfort spreads upwards into the chest. It developes characteristically between two and three hours after the last meal and endures for an hour or so unless relieved by food, fluid or alkaline medicines. Cold, fatigue, mental worry and tobacco tend to increase it; warmth, peace of mind and holidays relieve. It may be associated with water-brash and vomiting and with sensations of gastric flatulence.

It is most frequently encountered in cases of duodenal ulcer, but occurs with some gastric ulcers, and occasionally with early growths of the stomach. It is also, however, registered in some cases of dyspepsia due to gall-bladder and appendicular disease, and, at times of stress or in association with tobacco-excess in patients endowed with the over-active, over-acid stomach which we recognise as contributory to the ulcer-diathesis, it may arise without a lesion of any kind. The fact that it may occur in the absence of any gastric or duodenal lesion is the best evidence that it does not express these lesions, but only the nervous perturbation of function which they are liable—as foci of irritation—to engender.

Whether the irritation be local, distal or central, we believe its effect to be the production of a hypertonic " behaviour " or " posture "—that is to say an excessive tonic and peristaltic activity—in the pars pylorica shortly before the stomach is due to empty. This abnormal increase in muscle tension is the cause of the pain. When food or fluid is introduced into the normal stomach the normal response is a relaxation of tension to accommodate the increased content. If this did not occur, intra-gastric pressure would rise continually during a meal. The occurrence of this same relaxation in disease eases the pain, which alternatively departs eventually when the stomach empties completely. Alkalies, such as bicarbonate of soda, are believed to relax the cardiac and pyloric sphincters and so ease the situation by an expulsion of gas and a diminution of intra-gastric pressure. At one time hunger-pain was regarded as a symptom of hyperchlorhydria, but I have seen it in association with achlorhydria, and many people with hyperchlorhydria never experience it.

The treatment of hunger-pain includes the treatment of the underlying cause, but suitably frequent feeds and alkalies play an important part in all those conditions in which the cause cannot be eradicated, and also play their part in promoting healing of ulcers by giving rest to the diseased part.

FLATULENCE

In questioning patients about flatulence we should always determine first of all whether they mean stomach-wind or bowel-wind. I am here only concerned with the former. The symptom is characterised on the one hand by sensations of fullness or discomfort of varying degree in the epigastrium or chest, and on the other by eructations of gas or belching. The eructated gas is usually odourless, but in certain conditions it may be foul. When the smell is of " rotten eggs " or sulphuretted hydrogen, gastric stasis with protein decomposition is always present, and the symptom is therefore of real diagnostic value in pyloric

stenosis or obstruction. Very occasionally it is noted as a transitory symptom in association with an infective gastritis. Eructations of flatus or bowel-wind are pathognomonic of gastro-colic fistula and make the diagnosis even in the absence of radiological proof.

Odourless flatulence is one of the commonest symptoms of daily practice. It may be due to trivial functional disturbances or serious organic disease. The sensations of flatulence may clearly be produced by an actual excess of air or gas in a normal stomach or by a normal content in a hypertonic organ. There is no good evidence that gas can be evolved in or diffused into the stomach sufficiently rapidly, lacking an obstructive lesion, to cause discomfort or repeated eructations. Repeated and noisy eructations are always due to air-swallowing, and even the flatulent discomforts of organic disease are commonly aggravated by this sub-conscious habit.

Of organic lesions in which flatulence is a common complaint I have already mentioned duodenal ulcer. In gall-stones and cholecystitis it is a more pronounced feature, and " bursting flatulence " is a frequent complaint in the dyspepsias of gall-bladder disease. Eructation also commonly terminates anginal attacks and, because of this, anginal pains have often been erroneously attributed to dyspepsia.

The habit of air-swallowing or aerophagy is initiated by forcible attempts to relieve a gastric discomfort by eructation, the act being preceded by gulping of air. This gulping, which can be seen and heard by any observant witness, becomes established as a conditioned reflex and may cause years of misery. Air-swallowing is sometimes initiated by the repeated swallowing of mucus necessitated by pharyngeal catarrh, and occasionally as an aftermath of ether-anæsthesia. A simple explanation and instructions to avoid forcible eructation may result in dramatic cures where other treatments and endless prescriptions have failed, as they must fail in that they take no recognition of the cause of the symptom. Peppermint drops or bicarbonate of soda in hot water help to alleviate transitory post-operative flatulence and the flatulence due to the disturbed gastric motility of organic disease, but even in these cases suitable explanation plays it part.

HEART-BURN

Heart-burn, one of the commonest, has also been one of the most elusive of dyspeptic symptoms. It has also suffered confusion with water-brash and acid eructations, two entirely distinct symptoms. The sensation is characteristically one of burning in the course of the gullet. Its distribution is vertically linear, and it may be experienced at any level between the pomum Adami and the xiphisternum. It changes its level and fluctuates in intensity and may endure for minutes or much longer periods. It is not, as a rule, accompanied by eructations of fluid. It may be, but is not necessarily, eased by food or alkalies. It is not a symptom of organic disease, but is an association of hurry and worry, of carbohydrate excesses, of anæmic dyspepsias, and (replacing the nausea of the earlier phase) it is, with many women, a most troublesome symptom in the later months of pregnancy.

At one time heart-burn was thought to be a symptom of " acidity," largely because alkalies may relieve it, but it can occur in patients with complete achlorhydria, and it is not a particular feature of dyspepsias associated with hyperchlorhydria.

By analogy with other burning pains, such as tenesmus, we may argue that it is due to some degree of tonic œsophageal contraction, and the experimental work of W. W. Payne and E. P. Poulton (*Quarterly Journ. Med.*, 1923, xvii, 53) supports this hypothesis. Sodium bicarbonate and alokol—a proprietary preparation of aluminium hydroxide—probably by relaxing the cardia, give the best help, but dietetic adjustments and improvements in general and nervous health also play their part.

ACID REGURGITATION

This symptom describes itself, and is characterised by a sudden regurgitation into the gullet and mouth of sour fluid which may even roughen the teeth. It is the only direct symptom of gastric hyperacidity, and, even so, only occurs in a limited proportion of patients with hyperchlorhydria. The treatment is the treatment of any underlying cause such as duodenal ulcer, tobacco excess, or rushed irregular meals, combined with alkaline therapy.

WATER-BRASH

By water-brash we imply the sudden arrival in the mouth and gullet of large quantities of clear, tasteless watery secretion. It is to be distinguished from the excessive and stringy mucoid secretion of alcoholic œsophagitis. It occurs more frequently in duodenal ulcer than any other dyspeptic disease, and may, perhaps, be regarded as an exaggeration of the " mouth-watering " which is proverbially associated with hunger, but better manifest in dogs than men. It is synchronous with the " hunger-pain," is due to a sudden secretion of saliva, and possibly has a protective purpose, for, if swallowed, it may even relieve the

pain. Pain in the parotids sometimes accompanies this sudden salivary hypersecretion.

HICCUPS

Hiccups are usually due to trivial causes and regarded as a domestic joke. When, however, they occur in old people and are long-continued they may cause serious exhaustion and the gravest anxiety. They may also be of evil import as accompaniments of acute abdominal catastrophes and uræmia. In children they are particularly frequent and innocent, and probably to be related to bolting of food and starch-excess. Personally, I am unable to take peppery soup without immediate hiccups. They are a familiar manifestation of an alcoholic bout. In all of these it must be assumed that the symptom is a reflex consequence of gastric irritation. In the abdominal catastrophe the stomach is usually dilated and filled with turbid brownish fluid and sometimes regurgitated intestinal contents. In uræmia, either uræmic gastritis or a nervous intoxication might be invoked. There are also occasional epidemics of hiccups, and one of these followed or accompanied the wave of encephalitis lethargica shortly after the war, although there was no final proof that it was due to the same cause. In their graver forms hiccups are most intractable. Gastric lavage in cases of dilated stomach may put a stop to them. In the unexplained and long-continued hiccups of old people and occurring at any age in the epidemic variety it is customary to try oil of cajuput, tincture of iodine, etc., by the mouth, but they are usually ineffectual. An ice-cold application to the epigastrium sometimes succeeds. The induction of violent sneezing (not applicable in abdominal cases or the presence of exhaustion) is a remedy as old as the Socratic Dialogues, and is sometimes most effective. Stronger remedies may, however, be necessary, not excluding heroin and morphine, and even with these the spasms may continue during sleep. The mechanism of the symptom would seem to include an abrupt diaphragmatic spasm with simultaneous closure of the glottis.

CONCLUSION

What do we gain from a better understanding of these familiar symptoms? First of all we gain a better precision in diagnosis and improve our aptitude for early diagnosis. Our dependence upon objective measures and the accessory aids of the X-ray Department and the laboratory is diminished. The stories of our patients develop a meaning which they previously lacked, and a practical morbid physiology, even though it stand in need of fuller proofs, adds interest to our handling of disorders which have the reputation of being rather dull or difficult. Finally, we come to rely upon simple explanations and reasoned regimes and less upon the eternal bottle of bismuth and soda, which, valuable though it be in some conditions, has no right to be regarded as a panacea for all digestive ills.

A similar attention to detail in considering the symptoms of cardio-vascular, respiratory and other diseases is similarly rewarded. Let us therefore make it our endeavour to remain constantly curious about the nature and meaning of every symptom which our patients bring to us.

Correspondence

Restaurant Accommodation

To the Editor of the GAZETTE

SIR,—Some of us are more material than others, but even the most hardened æsthete would probably agree that before we can appreciate beauty we must be able to live. "A man doubtful of his dinner or trembling before a creditor," said Dr. Johnson, "is unlikely to be much given to abstract speculation." Many of us have creditors, but even more, Sir, are in these days doubtful of their dinners, for the congestion in the restaurant has now become so acute at mid-day that it is frequently impossible to eat there. Is it, therefore, impracticable to suggest that more room should be provided? We all of us love our beautiful old College, but in the old question of utility *versus* the æsthetic I think many of us would be willing to forego the artistic cupola that surmounts the dining hall were this to be replaced by another floor above the present one, provided that this could be done without undue interference with the original architecture.

Yours, etc.,

HILARY KERR-WIGGS.

Guy's Hospital,
S.E.1.

A. A. O.

Sport

Rugby

Guy's v. Old Blues

AT Honor Oak Park on Saturday, October 13th, Guy's were successful by 3 goals and 2 tries (21 points) to a goal and 3 tries (14 points).

The Old Blues, who had defeated the Old Alleynians so heavily the previous week, started the game with grim determination, and for the first ten minutes kept the Hospital defence guessing in their own 25. The Old Blues went all out to establish a lead in the early stages of the game, and Guy's had all their work cut out to keep their line intact.

However, having overcome the initial onslaughts of the Old Blues' forwards, Guy's settled down to play attractive football, and, following a splendid movement started by Giesen, Alexander raced through the centre and, after drawing the opposition, sent in Wright for an easy unconverted try.

The visitors pressed for a few moments, but Sharp, receiving in his own 25, raced across field, started a movement in the back division which was carried on by Giesen and Steytler, and eventually Fletcher, who had come up at a terrific speed, took the final pass to register a try under the posts for Alexander to convert.

A little later, following a scrum some ten yards from the visitors' line, Bowles nipped round the blind side and scored in the corner, to which Kark added the goal points with a fine kick near the touch-line.

Soon after the interval Evans scored a good try for the Old Blues, but immediately afterwards Steytler nullified this effort by creating a splendid opening for Giesen, who ran magnificently before touching down for a try near the posts, which Alexander converted. Midway through the second half the Hospital relaxed their efforts, and the Old Blues profiting, proceeded to register two tries, one of which was converted. With only seven points separating the sides Guy's again took the upper hand and Steytler, after taking an awkward pass from Bowles, sent Giesen over again for a try, which was not converted.

The position now seemed safe for Guy's, but the Old Blues never gave up trying, and a punt ahead which Sharp mishandled enabled them to register another try before the finish, Gobey's attempt to convert just hitting the upright.

It was an extremely keen and exciting game, and the Hospital deserve every praise for the cool manner in which they overcame the early onslaughts of the visitors.

Their success commenced immediately they rearranged the formation of their pack to the 3—4—1 formation; the ball came out quicker and, as a result, the backs were able to over-run the opposition and score at ease.

The tackling on both sides was very sound, and the combination of Steytler, Giesen and Alexander was the outstanding feature of the match. Wright was severely marked by Wells, and only on rare occasions was he allowed any latitude in which to work.

Team.—E. C. Sharp; C. G. Wright, P. C. Alexander, J. E. Giesen, I. McD. G. Stewart; J. van A. Steytler, V. H. Bowles; M. R. Kark, P. Fletcher, C. S. Darke, E. R. Davies, S. J. van der Merwe, W. F. Frazer, T. A. Hale-Monro, A. Forbes.

Guy's v. Old Whitgiftians

FOR their home match against the Old Whitgiftians on Saturday, October 20th, Guy's fielded an experimental side, which eventually defeated the visitors by a goal, a penalty goal, and 3 tries (17 points) to a goal and 2 tries (11 points).

In the back division Guy's gave a trial to O. P. Llewellyn, a freshman from St. John's, Cambridge, and P. H. Birks, a centre from Radley College.

This game commenced in similar manner to the Old Blues—the visitors' forwards dominating the loose play and for the first quarter of an hour Guy's were kept on the defensive. Having recovered from these shock tactics, Guy's set about finding a loop-hole in the Old Boys' defence, and the first attacking movement produced a score. A combined three-quarter movement carried play to the visitors' 25 and, following a scrum in front of the posts, Guy's were awarded a penalty and Giesen kicked a goal. Immediately afterwards the Hospital suffered a severe loss when Wright had to leave the field with an injury to his leg. However, although Clarke was taken out of the pack to occupy the position on the wing, the Hospital pack held its own, and Kark, Darke and Fletcher did some excellent work in the loose.

Steytler at fly-half kept the whole side moving—alert for the slightest chance of converting defence into attack, he had an excellent partner in Giesen to support him. Time after time the back division was moving splendidly, and only relentless tackling prevented them from crossing. However, the Hospital forwards were vastly superior in the loose, and two tries were registered by Fletcher

and Darke, following some excellent work in the line-out.

Soon after the interval Guy's increased their lead as the result of a brilliant individual effort by Giesen, who left the opposing defence standing. A little later a combined effort between Steytler and Giesen led to the latter crossing the line again—the first of these tries Giesen converted.

With a lead of 17 points the Hospital appeared to be content, but the Old Boys rearranged the back division and attacked with great vigour.

Within five minutes they had reduced the lead by scoring two snap tries, neither of which was converted. Then the Hospital came into their own again and pressed for some time in the visitors' 25, but could not penetrate a sound defence. In the last minute of the game their fly-half, Seear, intercepted a pass almost on the goal-line and, catching the Guy's defence on the wrong foot, raced the whole length of the field to score under the posts for Stutchberry to convert.

Team.—O. P. Llewellyn; C. G. Wright, J. E. Giesen, I. McD. G. Stewart, P. H. Birks; J. van A. Steytler, V. H. Bowles; M. R. Kark, P. K. Hopkins, C. S. Darke, A. Forbes, E. R. Davies, P. Fletcher, T. A. Hale-Monro, A. R. Clarke.

Guy's v. Harlequins

ONE of the best games for some time was seen at Honor Oak Park on Saturday, October 27th, when the Hospital, after having the better of the argument, had to admit defeat by a dropped goal, a penalty goal and a try (10 points), to a goal (5 points).

It was a magnificent struggle, both sides playing bright, open and attractive football; the visitors had a decided advantage forward, and their pack, which included Dunckley, Bolton, Brook and Prescott, was too heavy for the Hospital octette. However, the Guy's forwards stuck to their task magnificently, and after they had reverted to the 3—4—1 formation, obtained the ball with more regularity than their opponents.

In the first half, Guy's had the advantage of the breeze, but, in spite of many promising movements, they could not obtain more than two points advantage at the interval. It appeared that the Quins would run away with a substantial win, but so well did the hospital fifteen play as a combination, the general impression was that they were distinctly unlucky to lose. On two occasions in the second half magnificent efforts by Alexander and Giesen deserved a try; in the first instance a splendid solo run by Alexander appeared a certain try, but Ronald raced across and brought him down a yard from the line. On the other occasion Giesen broke through splendidly and gave a perfect opening for de Gregory, but, unfortunately, he had been injured early on and was not fast enough to carry on the movement.

Both sides threw the ball about with rare abandon, and although Howorth and Guye were content to kick for safety, the Hospital back division tried every possible movement to get through to the line.

Undoubtedly the honours of the match go to Giesen, who was the outstanding back on the field; time after time he broke away with electrifying bursts which would have resulted in scores had he been well supported, but the lack of pace on either wing nullified the good work he put in. Again Steytler proved a tower of strength both in defence and in attack—the manner in which he took the passes from Bowles, which at times were badly directed, was simply amazing. Had he received a good service from the base of the scrum, there is no doubt that the Quins' defence would have been caught napping on several occasions.

One of the finest tries seen on the ground for some time was scored by Alexander, and came as the result of an electrifying movement by Steytler, Giesen and Alexander.

Receiving the ball from 40 yards out, Steytler cut out the opening and passed to Giesen, who, travelling at full speed, gave a lightning pass to Alexander, who carried on the movement and scored between the posts for Giesen to convert.

Terrific pressure by the Harlequins pack followed, and Guy's were pushed over their line and, in the scramble that followed, the visitors touched down for an unconverted try.

After the interval, the Quins did their utmost to establish a footing in the Hospital 25, by well-judged kicking to touch, but the Hospital fought back gallantly against the wind, and the efforts of Giesen, Steytler and Alexander nearly gave them the victory, until Howarth tried a drop at goal which would have gone wide of the far post had not a sudden gust of wind turned it inwards for a dropped goal.

Near the end feet up cost Guy's a penalty, and from a difficult position Chapman made the issue safe by kicking a good goal.

It was a glorious battle, full of excitement and good football from start to finish.

Team.—E. C. Sharp; R. M. de Gregory, P. C. Alexander, J. E. Giesen, I. McD. G. Stewart; J. van A. Steytler, V. H. Bowles; M. R. Kark, A. G. Heberlein, C. S. Darke, G. J. van der Merwe, A. Forbes, T. A. Hale-Munro, R. O. Yerbury, A. R. Clarke.

Hockey

Guy's v. University College

PLAYED at Perivale on Saturday, October 13th, this fixture resulted in a draw, 1 goal all. This was rather unsatisfactory in view of the run of the play, the Hospital being always on the attack and our defence having very little difficulty with a rather scrappy University College forward line.

After about 15 minutes' play, during which the ball had hardly left our opponents' half, there was a sudden breakaway from a twenty-five at the other end of the field, which caught the Hospital defence napping and enabled University College to lead.

This did not last very long, however, and Guy's equalised with a goal by M. J. C. Jenkins.

The second half was even more in Guy's favour, and it was unfortunate that numerous attacking movements failed to register more goals, the defence being forced time after time to concede corners.

Team.—W. H. Clarke; W. J. Quick, A. C. Greene; A. E. Loden, R. G. Archer, C. F. Wright; J. B. Franklin, E. B. Rowe, M. J. C. Jenkins, N. W. Lucas, C. H. Phillips.

Result.—1–1.

Guy's v. University College Hospital

GUY'S fielded a stronger side against University College Hospital on Wednesday, October 17th, than against University College on the previous Saturday, and were rewarded by an easy victory of 5 goals to nil.

About five minutes had elapsed when E. B. Rowe put Guy's ahead with an easy goal. R. G. Archer soon added another from a melée in front of the goal, and half-time came with a lead of two goals for Guy's.

This was not added to until about 15 minutes from time, when M. J. C. Jenkins scored for the Hospital, quickly followed by two more by E. B. Rowe, the first of which came from a centre by C. A. Phillips to the back of the circle, the second from a penalty corner on the stroke of time.

The defence were not kept very busy, but all played well, the marking being much improved in comparison with previous games this season, and the ball being cleared more quickly.

Result.—Guy's, 5; University College Hospital, nil.

Team.—H. V. Brown; W. J. Quick, A. C. Greene; A. E. Loden, R. G. Archer, C. F. Wright; J. B. Franklin, E. B. Rowe, M. J. C. Jenkins, J. E. Elliott, C. H. Phillips.

Guy's v. The Metropolitan Police College

GUY'S were entertained to an enjoyable game by the new Police College on Saturday, October 3rd. This was won by Guy's by 5 goals to 1.

Guy's were always the better side, although the Police went ahead with the first goal.

Jenkins added two goals for the Hospital, the second being an excellent drive into the roof of the net. Rowe also scored, and the Hospital crossed over with a lead of three goals to one.

During the second half the forwards were not so well together, partly on account of a rather poor surface on the ground at one end. Jenkins, however, added another goal, and Franklin scored from the left wing, to give Guy's a well-deserved victory.

Result.—Guy's, 5; Metropolitan Police College, 1.

Team.—H. V. Brown; R. G. Archer, A. C. Greene; A. E. Loden, A. G. Richmond, C. F. Wright; J. B. Franklin, E. B. Rowe, M. J. C. Jenkins, J. E. Elliott, C. H. Phillips.

Guy's v. Middlesex Hospital

AT Wembley, on Saturday, October 27th, Guy's defeated Middlesex Hospital by 5 goals to 1.

Winning the toss, Guy's played down the slope, and the first half was fast and keenly fought. Guy's scored first from Rowe at inside left, after a good run by the forwards, and he put a lightning shot into the net. Middlesex replied almost immediately from the next bully, and their inside right defeated Brown in goal with a good shot.

The scores remained level for some minutes, but soon the Guy's forwards completed a good run with a goal from Franklin at left wing. Soon after this Jenkins, the Guy's centre-forward, started a movement, and after running with considerable dash, he gave a beautiful pass to Rowe, who scored again.

The Middlesex forwards looked dangerous once or twice, and an awkward situation in front of the Guy's goal was relieved when, after a misunderstanding between the backs, Brown came out to clear, and the ball narrowly missed going between the posts. This was bad luck for the Middlesex forwards, who had been pressing hard.

Before half-time Franklin had added two more goals, giving Guy's a lead of 5—1.

The second half was a different game. Guy's slacked off noticeably, and although there was no further score, they were lucky not to have had their lead reduced.

For the Middlesex Hospital, Dickson at centre-half and Handley at right wing played well, while

for Guy's, Jenkins and Greene were conspicuous in attack and defence respectively.

Team.—H. V. Brown; R. G. Archer, A. C. Greene; C. F. Wright, A. G. Richmond (Capt.), G. E. Clarke; J. E. Elliott, F. L. E. Musgrove, J. J. M. C. Jenkins, E. B. Rowe, J. B. Franklin.

Golfing Society

THE Golfing Society may so far be said to have had a successful season. The Hospital played seven matches during the summer, winning five of these and losing two.

Two new and interesting fixtures were obtained, one against the Royal Military College, Sandhurst, and the other *versus* Royal Wimbledon. Both these matches were amongst those won, that against Wimbledon being, perhaps, the most outstanding performance of the summer in that a really strong club side was defeated without the loss of a game. It is confidently hoped that these two fixtures will become annual ones.

In addition to these matches the Medical Students played, and were defeated by, the Dentals, and both Medicals and Dentals played matches with their respective Staffs, the Students in each case being successful. We should like to express our thanks to those members of the Staff who so kindly provided each of the Students' teams with an excellent day's golf.

The President's Prize was played for on May 23rd, in which P. B. Hanbury won the scratch Trophy. A. R. Walton won the 36-holes handicap award and Mr. Eckhoff and A. E. Parrott were successful in the morning and afternoon medal rounds.

At the United Hospitals' Meeting at West Hill on June 19th Guy's were strongly but, unfortunately, unsuccessfully represented; no one seemed to be able to produce anything approaching his true form under the most favourable conditions.

Three Guy's men played in the newly-formed United Hospitals' team *v.* Sunningdale—Hanbury, Elstob and Weighell—all of whom acquitted themselves well.

The activities of the Society are by no means over for the year, as a return match with Sandhurst is to be played, an A team has home and away matches with King's College, and the Inter-Hospitals' Cup has yet to take place. Receiving a bye in the first round, our task in the second is a difficult one, Bart.'s being our opponents. With this obstacle overcome, we should have an excellent chance of winning the Cup for the second year in succession.

With a scarcity of new material, prospects for the future are rather uncertain, but we have the nucleus of a fairly strong side for next year at least.

A. L. Y.

Inter-Hospitals Cup—2nd Round
Guy's v. Bart.'s

A MATCH was played at Walton Heath Golf Club on October 31st, and in the second round of the Inter-Hospitals' Cup Guy's beat Bart.'s by 8 matches to 4, having drawn a bye in the first round.

FOURSOMES

Guy's		*Bart's*	
P. B. Hanbury & C. B. Elstob	0	P. W. Morse & C. M. Carr (6 & 5)	1
B. J. Doran & H. B. Thornton (6 & 5)	1	I. M. Wilson & A. Thomson	0
I. Drybrough Smith & B. C. M. Reed (4&3)	1	B. Halford & R. H. R. Purnell	0
A. L. Young & F. I. Evans	0	G. M. Robins & W. Thorne Thorne (1 up)	1
	2		2

SINGLES

Guy's		*Bart.'s*	
P. B. Hanbury (3 & 2)	1	P. W. Morse	0
C. B. Elstob	0	C. M. Carr (2 up)	1
B. J. Doran (2 & 1)	1	J. M. Wilson	0
H. B. Thornton (4 & 3)	1	A. Thomson	0
I. Drybrough Smith (2 & 1)	1	B. Halford	0
B. C. M. Reed (7 & 5)	1	R. H. R. Purnell	0
A. L. Young (3 & 1)	1	G. M. Robins	0
F. I. Evans	0	W. Thorne Thorne (2 & 1)	1
	6		2

Fencing

ON Saturday, October 27th, Guy's entertained the Royal Air Force Fencing Union to a three-weapon match. The Sabre was fought first, resulting in a win for the visitors. J. R. Forbes, J. F. Morris and P. H. Denton were each defeated twice. In Foil the Hospital won by the satisfactorily wide margin of nine wins to none. Epée was the most closely contested weapon of the match. The R.A.F. won with five wins to the Hospital's four, three of which were gained by D. M. Paterson, who was thus undefeated in both foil and epée.

The match was therefore won by Guy's with 16 wins to 11.

Hospital Information, etc.

Pass List

ROYAL COLLEGE OF SURGEONS OF ENGLAND.
L.D.S.
PART III.
Special Anatomy and Physiology.
D. L. Gooderidge.

SOCIETY OF APOTHECARIES OF LONDON.
PRE-MEDICAL AND PRIMARY EXAMINATIONS.
October, 1934.
Materia Medica and Pharmacy.
H. D. Lamb.

Anatomy.

J. B. Good — R. A. Stenhouse
W. A. Groom

Physiology

W. A. Groom — K. G. Pascall

FINAL EXAMINATION.
October, 1934.
Surgery.
W. McC. Graves-Morris.
Forensic Medicine.
W. McC. Graves-Morris.
Midwifery.
H. N. Levitt — A. Ponder

UNIVERSITY OF LONDON.
PH.D. EXAMINATION.
October, 1934.
Anatomy.
Ralph Brooke.

CONJOINT BOARD.
FINAL EXAMINATION.
October, 1934.
Pathology.

J. A. G. Carmichael — N. W. Irish
P. W. Clarkson — E. H. Jones
R. W. Cope — P. D. Lynch
G. M. Curtois — M. S. M. Mehta
J. W. Doupe — G. E. Paxon
W. P. Fitch — A. L. Peers
E. Gareh — J. S. Stuart
P. B. Hanbury — K. Tatz
M. J. Harris — S. M. Whitteridge
W. Hughes

Medicine.

*A. S. Amsdan — *H. Kaplan
*F. B. Champion — *B. Lawson
R. W. Cope — J. F. Lockwood
*J. R. Dickinson — *C. Mitchell
*A. G. Edwards — T. S. Protheroe
*R. S. Ellis-Brown — *E. J. Pryn
*I. Finer — *J. A. Sidebottom
*C. F. Heys — *C. W. T. Shuttleworth
*R. C. Hill — *F. H. Weston
*P. G. C. Jones — *S. M. Whitteridge

Surgery.

B. Agranat — M. R. Kark
A. S. Bookless — G. H. W. Keates
*D. A. Davies — F. B. Lake
*J. R. Dickinson — *B. Lawson
G. B. Ebbage — C. W. F. Outred
*I. Finer — *J. A. Sidebottom
J. R. Forbes — E. Rosenberg
T. H. Hills — A. A. Wailer
*H. Kaplan

Midwifery.

P. W. G. Baxter — C. A. Lillicrap
J. A. G. Carmichael — W. N. Mann
W. W. Cashmore — W. J. Mitchell
R. G. Chapman — N. O. Paterson
P. W. Clarkson — C. W. H. van der Post
*J. R. Dickinson — F. O. Potter
E. Gareh — E. B. Rowe
J. A. J. Hammond — A. E. K. Salvi
P. B. Hanbury — J. E. Spalding
*G. O. Jelly — J. B. Spearman
G. H. W. Keates — D. P. Stevenson
M. J. Lange — J. S. Stuart
F. H. Lee — A. A. Wailer
H. A. Leggett — E. D. H. Williams

* Now qualified.

Papers by Guy's Men

Arthur F. Hurst. Some useful drugs and how to give them. *Clin. Jour.*, 1934, lxiii, 402.

C. H. Fagge. Pneumococcal arthritis. *Clin. Jour.*, 1934, lxiii, 419.

T. Izod Bennett. Gee's disease. *Lancet*, 1934, ii, 739.

A. Simpson-Smith and W. M. Graves-Morris. Treatment of maxillary fractures. *B.M.J.*, 1934, ii, 632.

Arthur F. Hurst. The clinical importance of achlorhydria. *B.M.J.*, 1934, ii, 665.

P. P. Laidlaw and Others. Susceptibility of mice to the viruses of human and swine influenza. *Lancet*, 1934, ii, 859.

A. M. Zamora. Notes on bronchoscopy. *Lancet*, 1934, ii, 864.

R. R. Macintosh. Symposium on the general anæsthetic of choice for dental operations—II. Evipan. *B.D.J.*, 1934, lvii, 404.

L. J. Witts. The anæmias and their treatment. *Lancet*, 1934, ii, 919.

M. Campbell and S. S. Suzman. Auricular flutter. *Lancet*, 1934, ii, 923.

Change of Address

W. A. Mill, 89, Harley Street, W.1. *Langham* 1923.

G. G. B. Exner, 77, Harley Street, W.1. *Welbeck* 9722.

Appointments

G. B. Palmer, New Zealand Government Mental Hospital—Assistant Medical Officer.

A. T. Fripp, Assistant Surgeon, Royal National Orthopædic Hospital.

Marriage

HERTZOG—CURTIS.—On October 13th, 1934, at St. Saviour's Church, Brockley Rise, Dr. Willem Hertzog, of The Gables, Ramsey, Huntingdon, to Elfreda, daughter of Mr. and Mrs. A. T. Curtis, Forest Hill, S.E.

Births

BIGBY.—On October 26th, 1934, at Northlands House, Southampton, to Hilda Marian (née New), wife of W. L. M. Bigby, M.B., B.S.—a son.

KIRKPATRICK.—On 16th October, 1934, at the Church of Scotland's Women's Mission Hospital, Azmer, to Ottoline Victoria, wife of William Roger Kirkpatrick, L.R.C.P., M.R.C.S.—a son.

EDS. {D. P. K. / P. W. C.

GUY'S HOSPITAL GAZETTE

A Journal of Medicine, Surgery, Dentistry and Hospital News.

PUBLISHED FORTNIGHTLY.

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PASSIM

WE have heard it said that " where grass won't grow, babies won't either." This is probably one of the fallacies which one is accustomed to associate with proverbs, but it must be some such reason which has prompted some high authority to order the massacre of the trees in the Park. He imagines, we suppose, that if the trees are pulled down the grass will grow, and therefore the babies will also. The fallacy of such an argument is patent to any rational being, but probably not to him who has ordered the felling of the trees. For that is what is happening.

Would that Bright and Addison could see the harm that is being done. Would that they could rise in their graves and use all their influence, which has increased with the passage of time, to put an end to the despoiler of the last remaining vestige of beauty in the Borough. The trees may have their disadvantages—anybody who has walked from the Surgical Wards to the Medical Wards knows that; but they are, as it were, a connecting link with the past, and they have been cherished by generation after generation of Guy's men.

The curious thing about the levelling of the trees to the ground—two have gone already—is that nobody seems to know who has ordered their removal or why they are being removed at all. In our own minds we at first had a suspicion that the head gardener had become so exasperated by his inability to get the grass to grow that he had fallen, as a last resort, to an act of vandalism for which he would never be forgiven. But, of course, the head gardener knows a thing of beauty when he sees it.

We who have to live within the precincts of the Hospital regret that every fresh change in the architecture of the Hospital results in a reduction in the size of the Park, and we feel that without the trees it will no longer be regarded as such, but more as a County Council playing ground.

EVERY year a few weeks before Christmas the thoughts of every Resident automatically turns to the question of " The Niggers." Every year there is the same heated discussion as to whether or no a break should be made with tradition and " The Niggers " abandoned. There are many, and always will be many, who decry the efforts of the Residents to make Christmas Day in the Wards a little less banal and dreary for the patients and nurses than it might otherwise be. The anticipation of seeing the houseman ridicule himself before their eyes perhaps gives the patients as much pleasure as the actual deed. Never having spent a Christmas Day in the Wards, we are not in a position to express an opinion on the matter. At any rate, whether or not the Residents amuse the patients depends on the quality of the entertainment. This is not always very high, but probably the severest critics do not appreciate the agony of the preparation. Many are the hours spent in composing parodies, and considerable is the mental trauma caused by the endless practising, night after night, and by the thought of bursting into song in Wards, which, unlike a morning bath, have no flattering acoustic properties to render tone and depth to the otherwise hoarse and husky voice of the average Resident.

The " Niggers " may be a bad institution and even an anachronism in these days of entertainment so easily obtained by the turn of a dial, but once again the big drum and the " Here we are again ! " will resound within the Wards on Christmas Day.

EVER since the abolition of the post of Assistant Anæsthetist to the Hospital there has been a demand for more Staff Anæsthetists, and it is with pleasure that we hear that two more are shortly to be appointed. It should then be possible for the Assistant Surgeons always to have the services of a Staff or Resident Anæsthetist, and the A.H.S. will be relieved of the difficulty of finding Staff Anæsthetists for his more important operations.

Another post, that of Demonstrator of Anæsthetics, has recently been revived, and Mr. T. Harris, who comes to us from Melbourne, and the West London Hospital has been appointed.

ON Tuesday, the 13th instant, the " Ball of the Future " was held in aid of the Hospital at Dorchester House. It was an outstanding success, and the organisers are to be congratulated on their efforts, which resulted in over 1,200 tickets being sold. The purpose of the Ball was to bring the Hospital to the notice of a larger public; it has, besides serving this function, resulted in a profit which we understand to be in the neighbourhood of £1,000.

THE Residents' Going-Off Dinner on November 15th was an unqualified success, and it was a great pleasure to have as the principal guest Dr. Hurst, who last attended a Residents' Dinner 29 years ago when Mr. Mollison was the off-going President and Dr. O. V. Payne, the on-coming. He was heard to say afterwards that the traditions of the Dinner were being adequately maintained. Whether this is true or not we cannot say, but certain it is that two large yellow bowls have made their appearance in the College.

Mr. L. G. Mackenzie is the new President and Mr. A. G. Johnson the new Vice-President.

FROM Wednesday, November 28th, to Saturday, December 1st, the Guy's Hospital Musical and Operatic Society will give their performance of Gilbert and Sullivan's opera " Ruddigore " at the Fortune Theatre, Drury Lane. In making a special appeal to all our readers to give their support, we are assured that the performances will be well up to the standard achieved in the past. The Society deserves the heartiest congratulations on obtaining a West End theatre, but it is only by selling all the tickets that they will be able to meet the heavy expenses of the production, as they have no other source of income.

Tickets are still available for every night at all prices, and in wishing the Society a hearty success we trust that this appeal will bring all interested flocking to the Fortune Theatre to see the Bad Barons of Ruddigore. Applications for tickets should be made to Mr. Winston at the Wills Library.

WE would like to congratulate Mr. W. G. Gill on his having passed the Final Examination for the Fellowship of the Royal College of Surgeons.

Experimental Influenza

A Paper read to the Physical Society, Guy's Hospital, by P. P. Laidlaw, Esq., F.R.S.

(concluded)

II.

At the beginning of 1933 and just at the end of the influenza epidemic of that year, after many failures with ordinary laboratory animals, Wilson Smith, C. H. Andrewes and myself found that we could transmit to ferrets a disease from influenza cases. We secured six successes out of nine cases, and then the epidemic disappeared. Subsequent to this, nasal secretion from cases of " common cold " and sporadic cases diagnosed as influenza failed to infect ferrets.

At this point, and perhaps I should have dealt with it earlier, there arises the problem of the diagnosis of " influenza." During an epidemic the diagnosis is relatively easy. The very sudden onset, with fever, acute malaise and depression, passing on to prostration accompanied by pains, particularly in back and legs, and the weakness out of all proportion to the physical signs, which may be limited to an acute coryza, and evidence of infection from other cases render the diagnosis comparatively simple. But without evidence of high infectivity and when symptoms are mild the diagnosis may be exceedingly difficult. We are convinced that under the term " influenza," as usually employed, there are included a number of different diseases, and it is our hope that our work may ultimately assist the clinician to separate off one disease from the group, and for reasons which I hope may emerge, that one is, we believe, the true epidemic influenza.

Transmission was effected by instilling intranasally sterile filtrates of throat-washings from influenza cases. In the past filtration has usually been done with earthenware candles (Pasteur-Chamberland) or diatomaceous earth filters (Berkefeld). We employed " gradocol " collodian membrane filters kindly made and supplied by our colleague Dr. Elford (1931, 1933). With the recent increase in knowledge regarding the principles of filtration and this supply of membrane filters we have been in a better position than previous workers to secure successful results.

The disease in the ferrets was of very varying severity and could be passed from ferret to ferret by simple contact. Now experience with dog-distemper had shown that elaborate precautions were necessary to prevent the accidental spread of any highly infectious disease, and we immediately adopted the scheme of rigid isolation which was

evolved for the work on dog-distemper. This rigid isolation appeared to us essential, even though it severely limited the number of experiments which could be conducted at any one time. The plan is to house all experimental animals in a special building which can only be entered through a passage-way containing three inches of lysol. All workers, therefore, wear rubber boots and also rubber overcoats. On entry into the building boots and coat are washed down with lysol. There is a central hall to the building, and round that a number of small cubicles, each of these completely separated from the others and from the central hall. Each experimental ferret is placed in a special cage and the cage in a cubicle. Before every entry into the cubicle the worker or attendant is swabbed down with lysol so that any infectious material—dust, droplets, etc.—stick to the damp surface and are subsequently sterilised by another lysol wash. You can imagine how irksome this routine becomes and how much it slows up and hampers the work, but, with this system, we feel fairly confident that our experimental animals are safe from accidental cross-infection from one animal to another. All purchased ferrets have to be quarantined for at least fourteen days to exclude latent dog-distemper infection, for if this infectious disorder once gains access to a stock of ferrets the whole lot will perish. With all our precautions we have to confess that distemper has gained access to our ferrets on three occasions, and the research has been held up for a time as a result. Furthermore the scheme of work is costly and requires special buildings, so that accommodation of the kind we required, and our ignorance as to the best methods of storing influenza virus, compelled us to abandon a number of the strains we originally possessed, and we have devoted our energies and equipment to a more detailed study of one strain of the 1933 vintage.

The disease in the ferret is characterised by an incubation period of about 48 hours, followed by fever, in which the temperature may rise as high as 107° F. This is followed by a remission, and thereafter a second febrile period, usually lasting three or four days, during which there are symptoms of severe nasal catarrh such as sneezing, nasal obstruction which may be nearly complete, mucopurulent discharges from the nose, sticky encrustation round the nares, and so on. Throughout the illness, but varying considerably from case to case, there is prostration and lethargy, and occasionally obvious signs of muscular weakness. The disease is never fatal, and in what is now a fairly extensive experience, is never complicated by pneumonia.

Sections of the nasal mucosa show, during the acute stage of the disease, acute inflammation, catarrh of the superficial epithelium with complete loss of all ciliated cells, and collection of mucopurulent exudate in the air spaces.

We have paid particular attention to a search for bacteria which would induce complications and a fatal illness, but without success. The hæmophilic group of organisms, including varieties isolated from ferrets, pigs and human beings, has failed us. Certain cultures of streptococci do elicit, in conjunction with the virus, a more severe disease and prolong the illness, but a fatal outcome we have not yet encountered.

The ferret which has recovered from an attack of the disease is immune for some months to further doses of virus and also develops neutralising antibodies which circulate in the blood. Corresponding with this, we have found that men who have recently recovered from influenza also have circulating antibodies for this virus in their serum. Normal ferret serum does not contain demonstrable amounts of circulating antibodies. As regards men, we have so far only encountered two sera which do not contain antibodies. Unfortunately, we have not yet been able to devise a method by which we can estimate antibody with any accuracy, and thus we have not been able to follow the rise and fall of antibody, or, in fact, do more than demonstrate its presence or absence and guess at the amount in any given case.

We have thus secured from cases of human influenza an infecting principle which can be passed in series through ferrets and which can be filtered at will through membranes with pores sufficiently small to prevent the passage of all ordinary bacteria. The infecting principle has not yet been grown on artificial culture media, it is destroyed by heating to 56° C. for one hour, and will survive storage in glycerol or drying for many days. Antibodies to this infective agent can be demonstrated in the serum of convalescent men and animals. You will observe that, though our findings are suggestive, the number of times in which the virus was recovered from human patients is small, and experience of others has shown that great caution is advisable in interpreting results of this kind. For example, Gibson, Bowman and Connor (1919) adduced evidence to show that a filterable virus could be obtained from cases of influenza during the pandemic of 1918; this virus appeared to infect baboons, rhesus monkeys, rabbits, guinea-pigs and mice. Our experience with human material was not in harmony with these findings, but with their work and that of others in mind we did desire to obtain, if possible, more convincing evidence regarding the causal nature of our virus. We attempted to obtain this by experiments on human volunteers.

Prof. Fraser and Dr. Andrewes arranged for this to be carried out at St. Bartholomew's Hospital, and efforts were made to secure suitable volunteers from amongst the medical students. For various reasons few volunteers were forthcoming, and all of these were found to have circulating antibodies in their serum. As we failed to secure volunteers who did not have antibodies in their serum, two experiments were made with the volunteers available. Instillation of filtrates of ferret virus intranasally had no effect in either case. We thus obtained no further support for our belief in our virus, but, on the other hand, we were no worse off, as there was nothing decisively against our view.

We fully expected that the winter of 1933-34 would supply us with ample material from influenza cases in man; but as time passed we did not obtain the supplies we expected, and the local practitioners told us that there were no "true influenza" cases available. Materials from sporadic cases, diagnosed as influenza, but where there was no evidence of spread to contacts, were tested on several occasions on ferrets, but without success. One case only from an influenza outbreak, which did spread through a household, gave us a new strain of virus which appears to be identical with that obtained a year previously. The two strains cross-immunise completely, and induce diseases in ferrets which are indistinguishable.

The position at present is that we are still not certain that the ferret disease we have been studying is caused by the same agent that induces influenza in man. We believe this to be the truth, but we cannot adduce convincing proof in support of our conviction.

We feel that considerable indirect support for our view is obtained from the work of Shope (1931, 1932) on hog-influenza in the United States. Shope has demonstrated that swine-influenza is a complex and results from a dual infection with (*a*) a virus which by itself is almost harmless for pigs, and (*b*) a special hæmophilic organism, *Hæmophilus influenzæ svis*, which alone is powerless. But infection with the virus and the bacillus together regularly produces a serious and often fatal illness in pigs. Shope very kindly supplied us with his pig strain of virus, and we found that this would produce in ferrets a disease which was very similar to that caused by the virus from human beings. It is rumoured that swine-influenza was unknown in the States before the 1918 pandemic, but this may merely mean that the disease was not recognised until that date.

Our results with the pig virus have now been confirmed and extended by Shope (1934) in America. It seems clear that the pig virus is closely related, but not identical, with that obtained from human beings. We find the same type of fever, almost identical symptoms, and a similar series of changes in the nasal mucosa. Ferrets which are immune to one strain are always resistant and sometimes immune to the other strain. The pig strain is, on the whole, more virulent than the human, and appears to have a greater affinity for ferret lung tissue. The similarities completely outweigh the differences, and we consider that the results with the human strain of virus coupled with those obtained with swine virus are strong arguments for the view that influenza in man is primarily a virus infection. We would suppose that the majority of human cases do not pass beyond this stage, but suffer an acute illness of short duration which is only rarely fatal. There is thus for pure, uncomplicated influenza no defined pathological picture with concrete post-mortem findings. But in certain instances complications develop and secondary invasion by visible bacteria occurs with the production of purulent bronchitis, bronchopneumonia, etc., and when this takes place the mortality rate rises steeply and the post-mortem picture which was all too familiar in 1918-19 becomes a commonplace. The details of the post-mortem record will thus depend on the secondary invader, and many of the divergent bacteriological findings of different workers here and there throughout the world will fall into place. There is nothing very new in this thesis, and we cannot prove it, but perhaps you might like to discuss it.

Whether we are right or wrong we have continued to work intensively with our virus, and we have accumulated a number of facts which are interesting, though their immediate application to influenza in man is not easy to determine.

First, we have found that the only way in which we can infect with our virus is by the respiratory tract. The most certain route of infection is via the nose—with or without an anæsthetic. Feeding, intratracheal or intrapulmonary injections give uncertain results, and subcutaneous, intraperitoneal, intracerebral or intradermal injections *never* produce disease. In this respect our virus differs from those described by other workers, and this strictly limited path of invasion is a feature of virus activity which is not frequently met with in the case of other viruses. The facts are very remarkable, for it is quite clear from the clinical course of the disease in the ferret, together with the development of antibodies, that the virus *does* gain access to the rest of the body. But though this must be the case, we have failed to detect the virus in the blood, the cerebrospinal fluid, and indeed all the tissues we have investigated, with the exception of those of the respiratory

tract, and, so far as our evidence goes, the nasal mucosa contains the greatest concentration of virus, though the lungs may also contain significant amounts. Why the virus can only induce disease by entry through the respiratory tract we do not know.

Secondly, the subcutaneous and intraperitoneal injection of virus which does not cause disease leads to the production of antibodies in the serum, but (and this is very remarkable) the presence of these circulating antibodies does not confer immunity on the ferret. A sharp attack follows the instillation of virus up a ferret's nose, even though his serum contains a fair amount of antibody. This has meant that so far we have not been able to immunise a ferret without inducing the disease, and if a similar state of affairs holds for man there does not seem much prospect of immunising him against influenza by the administration of vaccines and virus.

Thirdly, as was mentioned earlier, the ferret which has recovered from an attack is immune for weeks, but after the lapse of six or seven months he becomes sensitive again. The sensitivity is, perhaps, not so great as that of the normal ferret, but he can certainly suffer a short and sharp attack of influenza. Now at this time there is still a detectable amount of antibody circulating in the body fluids. His condition is akin to that of the animal which has received multiple doses of virus subcutaneously—circulating antibodies are present and yet the respiratory mucosa is sensitive to the virus and, if invaded, disease follows. Once more we encounter a novel point—local sensitivity in what we should expect to be an immune animal. We have speculated as to the best explanation of this peculiar condition, but so far we have not been able to test our theories by experiment. If the findings for recovered ferrets have a parallel in human beings, once more the outlook for the establishment of a durable immunity in man is very poor. Yet the presence of circulating antibodies must surely be of advantage to their owner, even if they do not necessarily cause complete immunity. With this idea we have turned our energies to the production of a hyper-immune serum, and are now engaged in trying to determine what advantages can be gained from its use.

Before I close I should just like to add a word or two on *B. pneumosintes* of Olitsky and Gates (1921-22). You will remember that these two workers described the occurrence of a filterable bacillus which occurred in the throats of influenza cases. The organism is of very small size and is very difficult to cultivate. There is evidence that by itself this organism does very little harm to laboratory animals, but that it may cause damage to the lung tissue, of rabbits for example, and assist larger bacteria such as pneumococci to settle on the damaged site.

Lister (1922) succeeded in growing a small organism from filtrates of influenza sputum (five out of fifteen cases), and he tested the cultures on eighteen human beings and himself. He records what looks like a case of influenza in one subject and three or four other cases of mild illness which might have been mild attacks of influenza in resistant subjects. The case for or against this small bacillus is still being argued, but the question naturally arises—does our virus contain any organism of the pneumosintes group? Our filtrates are sterile in ordinary bacteriological culture media, but the requirements for the growth of the pneumosintes group are so exacting that we may have failed to grow such an organism, and special efforts are now being made to detect organisms of this type.

Well, gentlemen, I trust I have not wearied you too much with detail, or talked at ridiculous length about uncertainties, but for the research worker it is always the uncertainty that is attractive, and it is difficult to do justice to the mass of experimental work on influenza in small compass.

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Syphilitic Affections of the Testicle

A Clinical Lecture delivered at Guy's Hospital by V. E. Lloyd, Esq., M.C., M.B., B.S.

GENTLEMEN,—The involvement of the testicle in syphilis was not recognised until many years after the introduction of syphilis into European countries, although it was well known in gonorrhœa.

A syphilitic cause was first suggested by Astruc in 1736, and both Benjamin Brodie and Sir Astley Cooper were later strong supporters of a syphilitic origin for certain swellings of the testis.

Finally, the great French syphilologist Ricord in 1843 demonstrated clearly the various types of syphilitic inflammation of this organ.

Amongst the various affections in the later stages of syphilis a gross swelling of the testicle is not a common condition.

Fournier, who for many years kept detailed records of his cases, noted the testis to be affected in 5 per cent. of 4,000 cases of tertiary syphilis in men. Among the many varieties of swelling of the testicle you will see at Surgical Out-Patient departments or in the wards, the cause will be found to be due to syphilis in very few.

Syphilitic inflammation of the testicle may affect the testis or, rarely, the epididymis; involvement of both epididymis and testis is excessively rare.

SYPHILITIC EPIDIDYMITIS

During the secondary stage of syphilis, from two to four months after the appearance of the chancre, there rarely occurs a painless enlargement of the epididymis; in about one-third of the cases the condition is bilateral.

The principal characters are indolence and absence of pain. There is moderate enlargement limited to the globus major of the epididymis—usually hard and uniform, more rarely nodular. Gradual resolution of the swelling takes place even in the absence of treatment.

In the tertiary stage of syphilis the globus major of the epididymis may become enlarged from gummatous changes. The swelling is moderate and is hard, smooth and painless. There is little tendency to degeneration and ulceration.

SYPHILIS OF THE TESTIS

This may be divided into two clinical varieties:—

1. Diffuse interstitial orchitis.
2. Localised gumma of the testis.

Diffuse interstitial orchitis of syphilitic origin gives rise to a gradual painless enlargement of the testis in the tertiary stage of the disease. At first the swelling retains the shape of the testis, but later becomes globular. It is smooth, hard, heavy, insensitive and of even consistency. The scrotal tissues are freely moveable over the swelling and are normal in appearance.

The epididymis, which is almost invariably unaffected, is flattened against the swelling and difficult to recognise.

There are no symptoms. The condition is quite painless until the weight of the swelling is marked, when persistent aching in the groin, and not in the swelling, is present.

The vas deferens is normal, but hypertrophy of the cremaster muscle may give rise to some thickening of the spermatic cord.

The characteristic testicular sensation on pressure is absent, and the organ is completely insensitive.

The ovoid shape of the testis is preserved at first, but later on further enlargement the swelling assumes a spherical shape. In this stage the globular configuration, the size, the weight of the swelling, and its densely hard consistency have given rise to the very descriptive term of *billiard-ball testis*.

Occasionally the swelling may become of much greater size, as in some of the Gordon Museum specimens on the table.

In the early stage a hydrocele is very frequently present, although the amount of fluid is slight; it rarely exceeds two ounces. The tunica albuginea of the testis participating in the fibrous changes in the testis becomes thickened. Later adhesions of the tunica vaginalis form and the hydrocele fluid becomes absorbed. Still later the scrotal tissues may become adherent to the swelling.

Diffuse interstitial orchitis is frequently bilateral, although both glands may not be affected at the same time. Some weeks or months may elapse before the onset of swelling in the second testis. The swelling of the second testis may occur while the patient is under antisyphilitic treatment—a sequence which is also frequently noted in the course of the interstitial keratitis of congenital syphilis when the second eye becomes affected during treatment.

In both of these conditions the patient should be warned of this possibility.

Localised gumma of the testis. In this variety, although there is always some degree of diffuse interstitial orchitis the characteristic feature is the presence of a nodular swelling or swellings of the

testis. The absence of symptoms is similar to the diffuse variety.

The enlargement of the organ rarely attains the size presented by the "billiard-ball testis," and develops later in the course of the disease—10 to 20 years after infection. I have seen this condition recently in a patient aged 77.

When near the surface of the testis a gumma is recognised as an isolated nodule. Multiple gummata result in an irregular craggy swelling, which, like the diffuse variety, is densely hard and insensitive. A small centrally situated gumma cannot be recognised, but the testis, although it may not be much enlarged, has the characteristic density and insensitivity.

When a syphilitic testis is cut open the organ is seen to be pale in colour, tough and fibrous. Gummatous areas vary in colour and consistency according to their age. At first on section they are reddish, soft and juicy, but at a later stage are tough and dry, the colour becomes yellow or grey, and there is a tendency to central softening.

As in a gumma in other viscera, there is no definite outline between healthy and diseased tissue. A gumma cannot be enucleated.

The ultimate fate of the testis in both the clinical varieties described may be indicated under four headings :—

I.—RESOLUTION

It is important to remember that resolution of the swelling may occur in the absence of any treatment, although a recurrence is likely.

Under antisyphilitic treatment, even when the condition has been present for some years, there is a very decided decrease in size in a few weeks. This rapid response in size is often utilised in the differential diagnosis between a suspected gummatous testis and a malignant growth.

When treatment is commenced within a month or so of the appearance of the swelling, the testis may return to its normal size and function. But when treatment is begun much later, although the testis may return to its normal size, it remains stony hard; there is no testicular sensation on pressure and the spermatogenetic function is permanently lost.

Resolution of swelling and restoration of function is more likely the earlier the treatment and the healthier the patient.

II.—ATROPHY

This is the most frequent termination of the natural resolution of the swelling. The final result some years later is a hard, insensitive, fibrous nodule about the size of a bean.

There is no normal testicular tissue left and no trace of spermatogenesis. When antisyphilitic treatment is commenced late in the disease there may be absorption of much of the gummatous tissue, but it is usually too late to save the germinal epithelium, and the final result is complete atrophy.

III.—DEGENERATION AND SUPPURATION

During the later stages of a gumma central necrosis of the affected area is not uncommon.

When deeply placed the necrosis may be of a dry type, and the products are absorbed and replaced by fibrous tissue with subsequent contraction and scar formation.

When the gummatous area is near the surface of the testis the tunica vaginalis, and later the scrotal wall, become adherent and softened, and later ulceration takes place, exposing at the base of the ulcer a thick slough which is like wet washleather in appearance and in consistency.

IV.—HERNIA TESTIS OR FUNGUS TESTIS

Nowadays this is an extremely rare condition, and is only seen in a gumma of the testis of long duration in neglected and debilitated patients.

The condition is a further progression in certain cases of an ulcerating gumma. It consists of a foul-smelling protuberance of gummatous and granulomatous tissue through the opening of the ulcer in the scrotal wall.

Much secondary bacterial infection by pyogenic organisms is usually present. Exposure to the air is followed by the formation of soft granulation tissue. Some remnants of the seminal tubules may be present in the herniated mass, and spermatozoa have occasionally been noted in the secretion.

As the hernia increases in size the testis becomes smaller. The margin of the ulcer in the scrotal wall tends to contract around the base of the hernia, which becomes mushroom-shaped. The condition is astonishingly painless.

It is well to remember that hernia testis has been noted in tuberculosis of the testicle and in malignant disease.

THE TESTICLE IN CONGENITAL SYPHILIS

A chronic swelling of the testis in the young infant is not a common condition. Formerly syphilis was the most important cause, but now that congenital syphilis has become far less frequent, a gummatous testis in an infant is a rarity.

The condition is always a diffuse interstitial orchitis with moderate enlargement, and has the

same smooth, wooden, painless characters as in the adult. It is frequently bilateral, and there may be a hydrocele of the tunica vaginalis or of the cord. There is usually abundant evidence of syphilis elsewhere in the patient. If untreated, the testis finally atrophies.

In tuberculosis of the testis in the infant the epididymis and vas are often also affected, although the prostate and seminal vesicles remain free from disease.

Tubercular peritonitis is frequently present, and is sometimes noted to precede the orchitis.

THE VALUE OF THE WASSERMANN REACTION IN TESTICULAR SWELLINGS

As in all other surgical conditions in which the possibility of a syphilitic cause is entertained it is most essential to remember two important axioms. Firstly, in hospital practice in about 4 per cent. of patients a positive Wassermann reaction may be expected whatever the condition presented.

Secondly, that even a very strongly positive Wassermann reaction does not prove that the particular lesion under consideration is due to syphilis. These points must be borne in mind when using the Wassermann test to help in deciding the diagnosis of a suspected malignant growth of the testis.

I have often felt that on the back of the envelope which contains the sometimes eagerly awaited result of the Wassermann reaction there should be printed these words: "A positive Wassermann reaction indicates syphilis in the patient, but not necessarily in the lesion under consideration."

A positive reaction is only a strong link in the chain of evidence in which most of the links are fashioned in the forge of clinical observation. The favourable effect on a testicular swelling of two to three weeks' anti-syphilitic therapy provides very much stronger evidence for a syphilitic cause than a positive Wassermann reaction in the blood serum.

Such treatment is often worth trying in doubtful cases, even when the Wassermann reaction is negative; there's many a gumma melted away with mercury and potassium iodide between leaving the surgical out-patient department and entering the ward for operation two weeks later.

A positive Wassermann reaction in the blood may be met with in cases of hydrocele of the tunica vaginalis.

When I was Mr. Thompson's clinical assistant some years ago I sent the fluid from hydroceles tapped at the genito-urinary department for a Wassermann reaction. I have records of this reaction in 16 cases; it was positive in five—about 30 per cent. A positive reaction in the blood serum was also found in the two of these five cases who attended again.

LATENT SYPHILIS OF THE TESTIS

It will be clear from my introductory remarks that gross lesions of the testis of syphilitic origin are decidedly uncommon, and that in general practice such conditions will be very rarely encountered.

You will also have understood that in every case in which a recognisable swelling of the testis is present that the condition is the result of a slow chronic syphilitic inflammation over many years, and that even when the testis appears to be affected only in one or two areas nevertheless there is invariably present a generalised diffuse orchitis of variable intensity of the whole gland. It is very probable in those who have suffered from syphilis that there is invariably some testicular damage, but only the more progressive and extensive lesions can be recognised by clinical examination.

Having spent some time in discussing syphilis of the testicle from the surgical aspect, I will now briefly consider the condition from the outlook of modern clinical and pathological syphilology.

When we consider the many problems involved in the spread of syphilis between the two sexes in man we find it is, and has been for many years, common knowledge among clinicians that the woman found to be infected with syphilis rarely can give a history of any lesion of the nature of a primary chancre; also that examination of the male sexual partner very commonly reveals no clinical evidence of syphilis, although the Wassermann reaction is positive in most cases.

I have examined many men referred to me for this reason, and have found no evidence of syphilis on physical examination in a startlingly high proportion.

In recent years it has been established that a primary chancre of the cervix uteri is considerably commoner than was formerly realised. Anwyl-Davies reported finding a symptomless hidden chancre of the cervix in 44 per cent. of 584 cases of recent syphilis in women; he considers that a cervical situation is by far the most frequent for the primary syphilitic lesion in women. This knowledge is very suggestive of a direct inoculation of the cervix uteri by spirochætes excreted in the semen.

It is now nearly 30 years since Finger and Landsteiner successfully inoculated monkeys with the semen from two cases of syphilis. Since that time living spirochætes have been recognised in the semen not only from cases of active syphilis,

REFERENCE TABLE FOR DIFFERENTIAL DIAGNOSIS OF INDOLENT SWELLINGS OF THE TESTIS

	Syphilis.	*Tubercle.*	*Malignant Growth.*	*Hydrocele.*
Tenderness	Nil.	Slight.	Nil.	Nil.
Urinary symptoms	Nil.	May be present.	Nil.	Nil.
Bilateral disease	Yes.	Yes.	No.	Yes.
Disease of—				
1. Epididymis	Very rare.	Marked.	Nil.	Mild. Often present.
2. Prostate and Sem. Vesicle	No.	Yes.	No.	No.
Massive enlargements of abdominal glands	No.	No.	Yes.	No.
Enlargement of Iliac glands	No.	Yes.	No.	No.
Rate of growth	Slow.	Slow.	Rapid.	Slow.
Signs—heavy	Yes, marked.	No.	Moderate.	Moderate.
Translucence	Opaque.	Opaque.	Opaque.	Clear.
Extension to scrotal wall	May ulcerate, no bleeding.	Sinus forms.	May ulcerate and bleeds.	No ulceration.
Surface	Usually smooth.	Irregular.	Irregular.	Smooth.
Wassermann reaction	Positive.	Negative.	Negative.	Occasionally plus.
Shape	Round.	Irregular.	Ovoid.	Ovoid.
General health	Good.	Poor.	Poor.	Good.
Age	25—40	20—40	30—60	30—60
Consistency	Densely hard and even.	Craggy and irregular.	Moderately hard, some cystic areas.	Elastic.

but also from cases of latent syphilis. Kertesz examined the semen of 20 latent syphilitic men who had been free from symptoms for years. Some of these men had a positive Wassermann reaction, some were negative; all had infected their wives.

He found living spirochætes in the semen of five out of the 20 cases, and was also able to transmit the disease to rabbits from ten of the cases by direct inoculation of a small quantity of semen into the eye.

Now when we turn to the results supplied by the meticulous post-mortem examination of the organs of syphilitic cadavers we find considerable evidence that active syphilitic disease of the testes is by no means the rarity that clinical observation has suggested.

Symners, who conducted a detailed examination of most of the viscera of 171 male syphilitics found, unmistakable histological evidence of mild syphilitic orchitis in 67 cases (39 per cent.).

Also Warthin states that on histological examination the testis of every latent syphilitic shows, sooner or later, some degree of interstitial orchitis. He found spirochætes on section in 75 out of 300 cases. Saleeby reports finding histological evidence of syphilis in 23 out of 40 testes from syphilitic cases.

All these remarks make it clear that the testes are affected in many more cases of syphilis than is usually recognised, and that the condition is of consequence not only to the affected individual, but is also a factor of primary importance in the spread of the disease.

The Clinical Aspect of Alveolar Abscess

A Paper read before the Dental Society, Guy's Hospital, on 16th October, by H. C. Davis, Esq.

MR. CHAIRMAN and GENTLEMEN,—I make no apology for choosing as the subject of this paper the strikingly unoriginal topic of alveolar abscess, for it has occurred to me that very few of us ever see or treat cases of alveolar abscess right from beginning to end. The unfortunate patient passes by stages from Out-Patients, to the Clinic, to the Gas Room, and finally to the Casualty benches, or, worse still, is completely lost sight of in the wards, so that it is an arduous business for one person to obtain anything like a complete picture of the case. But there is no lack of material, for not only is the classical fat-face an almost daily feature of this hospital—especially on Monday mornings—but the less spectacular stages of acute and chronic alveolar abscesses also frequently call for treatment.

I have endeavoured to study a number of cases of varying degrees of severity as fully as possible, and to rely on them rather than on text-books alone for my subject-matter.

We are concerned, then, to quote the definition of an abscess, with a process of inflammation leading to suppuration, occurring in a solid organ or tissue, which in this case is the tooth and its supporting structures.

The process may be acute, subacute, or chronic, according to the virulence of the infection and the resistance of the patient. For the purposes of description it is simpler to differentiate between the acute and chronic form, remembering, however, that the acute form may become chronic if untreated, and the chronic may, and usually does, show one or more acute phases.

CAUSES

An alveolar abscess can occur on any tooth, deciduous or permanent. We distinguish between two types of abscess according to the path taken by the infecting organisms :—

1. The periapical abscess, which is caused by infection spreading from the pulp canal and apical foramen ; and

2. The paradental abscess, in which the infection is via the periodontal membrane, and which can therefore occur on a live tooth, the pulp being at most secondarily infected.

Taking first of all the periapical type, ultimate abscess formation may be brought about in a number of ways :—

1. By carious disintegration of the tooth, leading to an acute pulpitis with rapid destruction of the pulp tissues and subsequent suppuration, the infection spreading through the apical foramen into the periapical space. Here, after a period of incubation of about 48 hours, the organisms will have had time to increase in numbers and in virulence to such a degree as to bring about abscess formation, usually of an acute nature.

2. There may, on the other hand, be slow death of the pulp, as under a large metal filling or under a synthetic filling, the pulp undergoing putrefaction, with the formation of highly irritant products of decomposition, the chief of which are the gaseous products—ammonia and hydrogen sulphide.

3. In root-canal treatment, forcing of septic matter or irritant drugs through the apex, perforation of the side of the root, and the use of unsterile instruments may unfortunately precipitate just those acute or chronic inflammatory changes which root treatment is seeking to avoid.

The paradental abscess is considerably less common than the bone apical abscess, the reason, of course, being that carious disintegration involving the pulp is the cause of the vast majority of all alveolar abscesses, but when a paradental abscess does occur it may arise again in a variety of ways :—

1. From the sore or inflamed gum-flap so often seen over a partially erupted lower third molar, which forms an excellent incubator for bacterial growth and is very liable to be the starting point of an acute gingivitis or acute abscess involving the crypt of the partly erupted tooth.

2. From a deep pyorrhœa pocket, where in much the same way lack of drainage and difficulty of cleansing encourage bacterial growth.

3. From any of the numerous sources of local irritation, such as calculus, badly-fitting crowns, large fillings with overhanging edges, etc.

4. A severe blow on a tooth, as from a cricket ball, which may bring about both death of the pulp and periodentitis. Here it is quite common to find that the patient does not complain of acute symptoms until some days, months, or even years after the original accident ; a tooth with a history of previous severe injury must be regarded, therefore, as a potential source of abscess formation.

BACTERIOLOGY

The bacteriological findings will depend on the source from which the organisms are obtained :—

1. Cultures from the apex of the extracted tooth show a predominantly streptococcal growth with, possibly, mic. catarrhalis, a staphylococcus, and

other common mouth organisms as well. I have found that in all cases which I have treated the culture has shown a practically pure growth of streptococcus viridans when taken from the apex.

2. Cultures taken from pus draining down a root canal again show, as a rule, a predominantly streptococcal growth, but if the abscess is of carious origin then the organisms concerned in caries formation may naturally be found as well. The foul smell of a discharging root canal is due chiefly to the presence of the bacillus fusiformis, which is only cultured with difficulty.

3. Cultures taken from the pus obtained from an incision and especially on the outside, nearly always give a pure growth of streptococcus either of the viridans type or, not uncommonly, the true hæmolytic type.

PATHOLOGY

A brief reference to the pathological changes which lead up to and produce actual pus formation is essential before considering more fully the clinical aspects and treatment.

We are concerned with the familiar phenomena of inflammation as modified by the anatomical structure of the teeth and their supporting tissues.

Where the injection is of a high grade the organisms will produce an acute inflammatory reaction in the vessels of the periodontal membrane resulting in their dilatation; this is followed by exudation of lymph and leucocytes and gradual slowing of the blood stream until stasis is reached and pus formation started. The rapidly-forming pus being enclosed under pressure breaks up the membrane, and makes its way through the bone, usually via the thinner outer plate. The bone is previously softened by inflammatory exudate and undergoes osteoclastic absorption under the intensive pressure of the pus. Once the bone is penetrated, a sub-periosteal abscess is formed, the pus then escaping into the subcutaneous tissues and to the surface, which may be into the mouth or on to the skin.

When the infection is of a low grade, the process occurs in a very much milder degree, and pus formation may occur so slowly as merely to expand the periodontal membrane with corresponding bone absorption to form an abscess sac. The pus then discharges from time to time down the canal or establishes a permanent sinus into the mouth, or possibly on to the surface of the skin.

Another way in which a chronic abscess may be formed is by the breaking down of an apical granuloma with central pus formation. Weston Price believes that a granuloma is an attempt on the part of the tissues to localise the infection and form a filter for bacteria, and that the more highly vascularised it is the better its resistance. Nevertheless it is a site of lowered resistance, and infection either blood-borne or direct is liable to cause its breaking down and subsequent abscess formation.

Bearing in mind the pathological changes, we may now correlate them with the clinical findings.

SIGNS AND SYMPTOMS

The clinical course of the acute abscess may or may not be heralded by pulpitis, but once periodontitis is established, pain is localised in the offending tooth, the dilatation of the vessels making it feel uneasy and raised in its socket. Relief is obtained by pressing or grinding the teeth together, because by doing so blood is forced from the dilated vessels. As the inflammation develops the symptoms are intensified, and all pressure is extremely painful, the blood having reached a condition of stasis. Congestion of the gum and some heat and redness of the overlying skin may be present as the next and most painful stage is reached, that of pus formation within the bone.

This stage is frequently accompanied by a general disturbance of the health, the temperature being raised and the pulse rapid. If the patient is already run down and—as is so often the case—constipated, the additional pain and lack of sleep will further lower the general resistance.

The bursting of the pus through the bone with release of pressure brings a welcome relief from the more intense pain, but is accompanied by dramatic signs of swelling as the loose subcutaneous tissues are flooded by the pus and inflammatory exudate. The actual amount of pus formed is sometimes surprisingly—almost disappointingly—small compared with the great swelling due to the inflammatory infiltration of the soft parts.

The skin over the area involved is red, hot, shiny, and tender to the touch.

The ultimate point at which the pus drains will depend on :—

1. The point at which it leaves the bone, whether through the outer or inner plate, or by tracking along the periodontal membrane.

2. The anatomical arrangement of the soft parts, fascial planes and muscle attachments governing the tendency of the pus to take the line of least resistance.

3. The force of gravity exerting a downward influence which will be an advantage in establishing drainage into the mouth in the upper jaw, but a distinct disadvantage in the lower.

4. Human intervention in encouraging the pus to track towards the mouth.

Abscesses may, therefore, be divided arbitrarily into those which point into the mouth and those which do not. Fortunately, the latter are far less common. Abscesses in connection with upper teeth usually find their way through the outer plate either below the attachment of the buccinator or orbicularis oris, when pus will reach the mouth direct, or break through the periosteum above the attachment, when the loose tissue bounded by the masseter, buccinator, orbicularis oris and nasal cartilages will be more or less involved, the puffy appearance of the lower eyelid at once suggesting an upper tooth as the cause.

If the abscess is connected with an upper incisor the swelling is more localised, the upper lip tending to be ballooned out by the tense inflammatory swelling.

On the other hand the pus may track along the periodontal membrane and ooze up round the tooth or burst through the inner plate and so form a smooth, tense, palatal swelling; these palatal swellings are not very common, but when they do occur it is the lateral incisor or palatal root of one of the molars, more probably the 1st molar, which is the most likely cause.

Occasionally an upper incisor bursts into the floor of the nose and, fortunately very occasionally, pus from a premolar or molar may burst into the antrum. Relief of pain, but without swelling, and followed by signs of acute empyema of the antrum indicate that this has occurred.

In the lower jaw it is again through the outer plate that the pus nearly always tracks; here the rule of the pus reaching the loose tissues below the attachment of the buccinator and pointing on the surface is much greater than in the upper jaw.

In the rare event of the pus bursting through the inner plate as in connection with a lower third molar where the plate is definitely thin, there is the danger of pus tracking downwards between the fascial planes of the investing layer and pretracheal layer of the deep cervical fascia and so setting up an acute spreading cellulitis in the neck.

Diagnosis of the acute abscess should be simple. A short history of one to four or five days, increasingly severe pain, worse at night, followed by some relief and the appearance of swelling of the soft parts with heat and redness of the skin are typical signs. Examination of the mouth, tapping of the teeth, and the degree and area of involvement of the soft parts will quickly reveal the causative tooth. Another typical feature is the whitish appearance of the gums due to the presence of desquamated epithelium, which enforced starvation and lack of natural cleansing has failed to brush away.

One might mention in passing, at this point, the acute abscess so often seen occurring in connection with deciduous teeth. Apart from its greatly lowering effect on the child's vitality, there is the danger of lymphatic involvement, osteomyelitis and involvement of the permanent successors. With these possibilities in view I do not think one is justified in ruthlessly patching up obviously septic deciduous teeth in the belief that their loss is one of the unforgiveable sins.

The clinical course of a chronic abscess does not display such well-marked symptoms. The chief characteristic is the presence of a sinus, not necessarily visible to the naked eye, but by means of which chronicity is maintained.

The sinus may be established as the result of an acute abscess which has become chronic, or as the result of gradual pus formation and bone absorption at the apex of a chronically infected tooth. It is most commonly seen high up in the sulcus over the root of the offending tooth, and is described, not very satisfactorily, as a "gum-boil"—the connection between a particular tooth and the opening of the sinus is best established by means of a silver exploring probe. Or again, the sinus may track along the periodontal membrane, down the root canal, or actually communicate with the skin surface, particularly along the lower border of the mandible in connection with a lower molar tooth.

The patient may be unaware of or quite unconcerned by the presence of a sinus, but will sooner or later come for treatment, as the chronic condition is characterised by one or more acute or subacute flare-ups until the cause is removed.

The patient may complain of swelling up of the gum-boil and discharge of pus with immediate relief of any unpleasant symptoms, or may complain of considerable swelling of the subcutaneous tissues, accompanied by some pain and tenderness.

The offending tooth will be periostitic, but otherwise it is usual to find that the local condition is essentially subacute and the general health unaffected, while a history of similar flare-ups previously is further diagnostic of a chronic abscess.

Where the abscess is one of very long standing there may be some thickening both of the hard and soft tissues, the soft tissues becoming fibrosed, while the chronic osteitis results in the deposition of periosteal new bone. The following case is instructive:—

The patient had a left lower molar devitalised and crowned in 1916. It gave him no trouble until three months ago, when the crown came off, the underlying tooth-substance showing considerable decay.

This occurrence was followed shortly by an acute flare-up in what was clearly a chronically infected tooth, some pus finding its way down the root canal. The patient was very unwell, and was kept in bed for a week, the only treatment advised by his doctor being daily syringing.

The acute phase gradually passed and the patient finally presented himself at the hospital, when the tooth was removed. All inflammatory swelling has now subsided, but there is a considerable deposition of new bone which can be felt along the side of the mandible.

TREATMENT

The treatment is essentially to remove the cause and establish and maintain drainage. Every case must naturally be treated on its own merits, but the treatment remains the same in principle.

A true acute abscess must be regarded as a potentially serious condition, which demands prompt and thorough treatment in order that the risks of osteomyelitis or spreading cellulitis be reduced to a minimum.

When the patient's general condition is poor and where circumstances will allow, the treatment is more satisfactorily carried out and the recovery more rapid if the patient is kept in bed.

With few exceptions it is far better to remove the offending tooth at once and, if necessary, incise on the inside in order to establish through drainage.

This is best carried out under nasal gas or evipan, with due precaution. If the stretching of the tissues in opening the mouth with a Marcus gag is at all likely to bring about the sudden bursting of the pus into the mouth, the patient must be in the upright position in order to avoid the risk of pus reaching the trachea, and starting a septic pneumonia.

Local treatment then aims at maintaining a healthy socket by the use of frequent hot mouth-washes and daily syringing. Antiphlogistin poultices every 12 hours are beneficial in speeding up the very slow absorption of the inflammatory exudate; when there is a considerable amount of true inflammatory infiltration it is as well to warn the patient that its dispersal will be a matter of many weeks, and that any attempt at incision would be worse than useless.

General treatment aims at restoring the patient's powers of resistance. The toxic state is greatly relieved by the use of a purge—an admirable one for the purpose being colocynth and hyoscyamus gr. 4, taken at night and followed in the morning by a dose of Epsom salts.

Rest, fresh air, simple food with plenty of fruit and liquids are helpful in bringing about a rapid recovery to normal.

When dealing with an abscess in connection with a lower third molar it is important to distinguish between an apical abscess in which infection has been carried via a septic pulp canal and a paradontal abscess where there is infection of the gums flap spreading to the crypt of a live, unerupted and partially erupted tooth.

With the former one carries out the usual treatment of establishing drainage by removing the tooth and incising in the sulcus if necessary.

The latter condition, however, demands less active intervention. The infection is more or less superficial, while sepsis and stagnation are abundant. Removal of the tooth with bruising of the underlying bone would, therefore, open up a whole new area to infection, and the risk of osteomyelitis would be high.

Treatment aims, therefore, at clearing up the acute local conditions prior to extraction, constantly syringing the gum flap, frequent use of mouth washes, and local application of some antiseptic such as Wynne Rouw's solution. It is most important to note if the upper 3rd molar is biting on the gum flap and so aggravating the local condition; if it is its immediate removal is indicated.

Where pain is severe it may be relieved by counter-irritants and the judicious use of sedatives. Of the many drugs available I have found that aspirin gr. 5 and medinal gr. 5 is valuable in giving relief when taken last thing at night.

When an abscess shows a tendency to point on the outside, all reasonable attempts may be made to encourage it to point in the mouth by the use of hot fomentations within the mouth and by giving support on the outside by painting the skin with collodion over which gauze and a thick pad of cotton wool is bandaged. But I am strongly of the opinion that in quite a number of cases the patient's welfare is better served by being " bloody, bold and resolute,"* and opening on the outside in good time.

Ideally, the patient should be put to bed and the operation performed with full aseptic precautions in the operating theatre. The offending tooth should be extracted and a small incision about $\frac{1}{4}$ inch long, made at the apex of the swelling, complete evacuation of pus being assured by opening sinus forceps within the cavity. If necessary, a small piece of rubber drainage tubing or strip of B.I.P.P. gauze is inserted partially into the abscess cavity to maintain drainage, gauze and a cotton-wool dressing being bandaged on outside.

If treated in good time, the amount of scarring is very small, but when the abscess is going to point on the outside, whatever you do it is most important to make an incision, as spontaneous bursting of the abscess will leave a far worse scar.

When making either an external or intrabuccal incision, a knowledge of the local anatomy and a well controlled hand are distinct advantages.

An incision in the sulcus should be as near the alveolus as possible, and in the palate a single deep incision, $\frac{1}{4}$ to $\frac{1}{2}$ inch in length, parallel with the palatal vessels, should be made.

On the outside, probably the commonest sites for incision are over the lower part of the masseter muscle, when the incision should be vertical, that is parallel with the muscle fibres, and below the margin of the mandible, the exact definition of which will be obscured by the inflammatory swelling. Here the incision may be parallel with the fibres of the platysma muscle, or, better, parallel with the lower border of the mandible, when there will be a better chance of the scar being more or less completely hidden.

The question of whether or not a tooth which has been the seat of either an acute or chronic abscess can be saved is one which breeds controversy. Personally, I feel that any tooth which has been involved in such widespread infection should by rights be removed.

Fortunately, the majority of offending teeth are so carious as to demand removal, but otherwise the æsthetic factor is the only one which should have any influence, except in patients suffering from hæmophilia, advanced tuberculosis, cancer, or other grave systemic disease.

The inevitably dictatorial and somewhat ruthless methods of hospital practice will, no doubt, not apply in private practice, so that if the patient fails to be allured by the suggestion of a bridge or denture, every effort will have to be made to save the tooth. If the condition is acute an incision must be made to drain the pus, and further drainage established via the pulp canal, which should be thoroughly cleaned out.

It is useless to attempt to fill the root canal permanently until the perapical tissues have returned to normal, and it is safer to follow Colman's plan of sealing off the unfilled root canal with osteo-cement. If at any subsequent date there is a flare-up of the old infection, it is then possible to re-establish drainage rapidly without the tedious necessity of removing an old root filling.

My experience of apicectomy is admittedly limited, but where one of the six upper front teeth is concerned the tooth substance reasonably sound and the patient's general health good, there is every chance of saving the tooth, provided that the apical infection is removed and full aseptic precautions taken.

I am aware that I have dealt with this subject far from fully, and you will, no doubt, wish to supplement what I have said from your own experience, but if I have merely succeeded in rousing in you the desire to argue, this paper will have served some useful purpose.

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*Shakespeare, Macbeth," Act IV, Scene 1.

A Case of Myiasis

By G. O. Jelly, Esq., of the Genito-Urinary Firm.

MYIASIS in this country is sufficiently rare for the following case to be recorded. The patient, aged 59, a Customs House official, came to the Genito-Urinary Department with a large, obviously epitheliomatous ulcer of the penis, from which three maggots were removed.

It is impossible to say whether their presence had been responsible for any diminution in secondary sepsis as only a week elapsed from the time of their removal to the patient's admission to hospital for partial amputation of the penis, and during this time he was advised to bathe and keep the ulcer dressed. It is, perhaps, significant that hæmorrhage and not discharge was his prominent symptom, and the sudden onset of bleeding was, in fact, the reason for his seeking advice after so long delay. Livingston, however, discussing 100 cases of therapeutic application of maggots in septic wounds, draws attention to the profuse and offensive red-brown discharge which they caused.

His recovery from operation was uneventful, and the microscopic section was returned as a squamous-celled carcinoma.

We are indebted to Mr. Evans and Mr. Boswell, of the Biological Department, for having the maggots identified. Major Austin, of the South Kensington Museum, reports that they are *Calliphora erythocephala* (bluebottle or blow-fly) in the third stage of development, and at least eight to ten days old. Identical maggots are used by Livingston therapeutically.

We are also grateful to Mr. Thompson for permission to record this case.

REFERENCE.

"Maggots in the treatment of Chronic Osteomyelitis, infected wounds and compound fractures." S. K. Livingston. *Surg. Gyn. & Obst.*, Vol. LIV., p. 702.

THE DEBATING SOCIETY

ON October 30th the Society met to debate the motion that "This House sees in Communism the one Alternative to existing World Chaos." The motion was proposed by Mr. PAGE ARNOT, of the Communist Party.

The speaker opened with the assumption that the existence of world chaos could be taken for granted and might be used as common ground for argument. The more obvious aspects of this chaos, he said, were the existence of want in the midst of plenty, the wilful destruction of foodstuffs and raw materials, and the uneconomic isolationism of nationalist policies and national currencies—all of which has become familiar features of the world situation. But how were we to account for these phenomena? Was it possible to study sociology as we studied biology, by a process of scientific analysis? While this possibility had been denied until about a hundred years ago, it had more recently found considerable acceptance, though to many it was still a new idea. It was, nevertheless, highly necessary, if we were to arrive at some diagnosis of the present condition of society, to classify and define in some way the stages in social evolution which had led up to it.

The impact of new theories upon preconceived systems of thought had invariably met with resistance. Freud's revolutionary psychology had inspired nothing but horror. Pasteur and most of the great bacteriologists had met with much resistance. Even Sir Ronald Ross had suffered persecution.

So also had the economic theory of Karl Marx, the first scientific Socialist, met with furious opposition—the more particularly as its implications directly touched the pockets of the powerful. The whole body of common opinion principally guided by press lords and those interested in maintaining the *status quo* combined to discredit it, yet still it was not suppressed.

In the five minutes remaining to him Mr. Page Arnot elaborated the theory of social evolution to some extent, and concluded with the affirmation of the Communist belief that society would emerge from its present state of chaos through revolution to a higher order, where production for profit had given place to socialised production for use.

Mr. H. J. B. ATKINS, in rising to oppose the motion, claimed that even the common-sense view of the man in the street was sufficient to refute the proposer's argument. We must have observed, he said, that there was a wide discrepancy between the theory and practice of Communism. And the diagnosis which Communists made of world troubles was false, and led to a still more false and dangerous treatment being advocated. Chaos existed indeed, and the World War had been a symptom of this chaos, but during the last 100 years conditions had improved, and the cause of this improvement lay in a widening of sympathy among all peoples. If Religion had kept pace with scientific development things might have gone better.

Communism in theory was a flimsy philosophical ideal. Communism in practice was a suppression of all personal freedom. The Dictatorship of the Proletariat meant the destruction of the whole edifice of civilisation and its finest traditions. In Russia it had meant unparalleled mass murder and brutal terrorism, and to what end? Russia to-day was a land of famine, misery and desolation. The government was a travesty of Communism, and only maintained its rule by terror.

"Communism," said Mr. Atkins, "if it *is* an ideal, does not come within the sphere of practical politics to-day."

Mr. FREEMAN, in seconding the motion, dwelt on the position of the Capitalist world from the standpoint of a student. Unemployment and the hopeless outlook, he said, affected students as it affected workers. Inventions and scientific progress in general were cramped by the anomalies of the economic system. The U.S.S.R. was a constructive force in the world, and, whatever atrocities were attributed to Communists by their

political enemies, we had to remember the role of Litvinoff at Geneva and the favourable status of students in Russia to-day if we were to form some estimate of the alternative offered by Soviet Russia to present world chaos.

Mr. HARDENBERG, in seconding the opposition, drew a picture of what Communism brought (possibly with the aid of Aldous Huxley) to his mind.

The organised World Order was, he said, not a desirable thing. Gone were the days of Tolstoyan romanticism, and now we were faced with modern atheistic Communism. The highly mechanised State, permitting free love and contraceptive centres as aids to stability, was indeed a horror to contemplate.

Utopia on earth would not be brought by State organisation, but rather the development of individual freedom. Civilisation was proportional to the amount of personal liberty. "Each individual must work out his own salvation. Professional reformers caused more suffering than benefit," and Liberty, not State, was the altar upon which sacrifices should be made.

* * *

Here it is necessary to digress for a moment while some jubilant herald announces, with a fanfare of trumpets and amid general rejoicings, "That the Debating Society provides free beer this term for the first time on record!"

Thus was the refreshment interval happily spent.

After the beer—the Fascists.

Mr. A. K. CHESTERTON, of the British Union of Fascists, rose and with very considerable eloquence denounced the "sentimentality" of the opposition and scoffed at the "meandering sociological theories of the Proposer."

The alternative to world chaos, he declared, did not lie in Communist revolution, but in national reconstruction on the basis of the Corporate State, an institution which he took care not to define.

Mr. STAFFORD-CLARK condemned the previous speaker on the grounds that his oratory was too good. He appealed to us, "as gentlemen of medicine and sense," not to listen to Communists, who proposed to treat the malady by killing the patient.

Dr. WAKEMAN, after listening to one or two speeches, including a defence of sentimentality, advised the meeting to remind itself of the motion.

The voice of a Distributist was heard.

Mr. DAVIDSON rated the opposition for inconsistency, spoke of the conflicts between Religion and the development of Medical Science, grew angry about what he called the hypocrisy of General Smuts, who advocated free democratic ideals in Edinburgh and oppression of negroes in South Africa, and read extracts from the "Sedition Bill." Concluding, he declared that what he had seen of Russia had shown him that the description of the opposer was "utter nonsense."

Mr. SMART, speaking for Fascism, declared that with national isolation and self-sufficiency there would be no need for world chaos. He cited Lord Nuffield's somewhat discredited protegé, John Brown, in an attempt to prove that conditions in Russia were not all that they might be.

Mr. VOSS provided statistics to show that wages had fallen in this country and in the whole Capitalist world, more particularly in Germany and Italy. He was not permitted time to make deductions from his figures.

Mr. CARDEW pointed out to the meeting that it was only incumbent on the opposition to produce *one* feasible alternative to world chaos other than that put forward by the motion.

Mr. ATKINS, in summing up, declared, "in the white heat of sincerity," that he regarded Communism and Fascism as the curse of civilisation. He reiterated his belief in gradual progress through international co-operation and goodwill.

Mr. PAGE ARNOT said that, in listening to his opponent, he had almost thought it was the latter's grandfather who had been speaking. Such ideas as his were a product of the 19th century, not the 20th.

The Fascists had spoken of controlling the industrial monopolists and major Capitalist brigands, but he must emphasise that it was just these elements of society who in Fascist countries had brought the Blackshirt to power and in whose interests they operated. Fascism was the road to something worse than chaos—to catastrophic war and annihilation. The workers of the world would not take this road. They would follow the example of the U.S.S.R. and struggle through revolution to the goal of a new Communist society.

A division was taken at this point, resulting in 15 votes being recorded for the motion and 25 votes against. Thus ended one of the most lively meetings in the history of the Society.

Guy's Hospital Gazette

The Editor will, at all times, be glad to consider articles or cketches, provided that they are accompanied by the writer's name and address, not necessarily for publication. Authors who desire re-rints of their papers should make their own arrangements with the printers when they return their proofs. All contributions to be addressed to *The Editor*, who does not accept responsibility for the views expressed by contributors.

Correspondence

The Ordering of Remedial Treatment

To the Editor of the GAZETTE

SIR,—The success of the after-care of all orthopædic work is dependent on the efficiency of the team appointed to carry out the restoration of function of the anatomical correction and reconstruction obtained by the surgeon—the same applies to the medical section. Unless a team works in conjunction with the medical man, little results may be expected.

For about 20 years thousands of blue slips have been presented to me on which is written "M. and M." and a signature, as a request from both surgeon and physician for my services, and, while considering this a sign of confidence in my ability both to diagnose and treat a patient, it would be far more useful if the following procedure were followed :—

First, the medical man should be quite certain that the medical gymnast is an efficient person, qualified in all sections of her work, and a member of the Chartered Society of Massage and Medical Gymnastics.

Second, that a very brief detail of the case in question is given, *i.e.* :—

Surgical Cases should have a diagnosis.—Type of injury. Surgical methods employed in correcting the injury or deformity. Stage of healing at the moment and what precautions are necessary at the stage of transferring the case to the gymnast.

The surgeon, having given this information, should request that the muscles in question be developed and the joint range increased, emphasising the importance of restoring normal function. If this information in given accurately, the gymnast as a specialist in her own subject is capable of deciding which type of physical method she should employ, far better than the surgeon, who knows little or nothing about the technique.

Medical Cases.—To get the best co-operation from the gymnast a very brief history of the case should be given, making special note of difficulties which have arisen. A masseuse is often blamed for indiscretions which would never have happened if a little more care were taken by the medical man in explaining the case under treatment. Again the order given by the physician should be what symptoms he wishes treated and what he is aiming at, rather than what form of physical work should be employed.

I have so frequently received very amusing instructions as to what I should do or not do, and often even to how it should be done. Such an order as massage and progressive passive movements written on a slip conveys nothing; I am left to diagnose the case—find out where the progressive passive movements are to be used, and decide in my own mind what the medical man means by a progressive passive movement.

Yours, etc.,

HESTER S. ANGOVE,
C.S.M.M.G., T.M.M.G.,
Sister in Charge,
Massage Dept.

Guy's Hospital,
S.E.1.

Another "Native" Letter

To the Editor of the GAZETTE

SIR,—I have just routed out a copy of an authentic "native" letter which I think caps that of your correspondent, and which I thought you might be interested to read. If you consider it worth publishing, you are, of course, at liberty to do so.

A dhoti is a loose trouser-cum-loin-cloth garment, and a lota is a tin can for water—the native's chief toilet requisite.

Yours, etc.,

J. R. AUDY.

Guy's Hospital,
S.E.1.

(*True copy*)

Ahmedpur, *2nd July*, 1926.

Beloved Sir,

I arrived by passenger train at Ahmedpur Station, and my belly is too swollen with Jack Fruit. I am therefore went to the privvy. Just as I was making the nuisance, the Guard making the whistle blow for train to go off, and I am running with lota in one hand and dhoti in next, when I fall over and expose all my shockings to many female on platform, and am got leaved at Ahmedpur Station. This is too bad if passengers go making "Dung" that damn Guard not wait train five minutes for him.

I am therefore pray your honour to make big fine on the Guard for public sake, otherwise I am making big report to papers.

From your faithful servant.

Contraception

To the Editor of the GAZETTE

SIR,—The National Birth Control Association has appointed a Medical Sub-Committee consisting of practitioners actively engaged in the teaching of contraception. The object of this Committee is to collect, co-ordinate and from time to time draw up for publication by the N.B.C.A. authoritative information on all aspects of contraception for the use of the medical profession.

This Committee is in consultation with research workers, manufacturers, birth-control clinics (both voluntary and under the Public Health authorities) and doctors engaged in teaching contraceptive methods throughout the country.

Although much valuable experience exists, the results of which are at the disposal of the N.B.C.A., the whole subject is still at the research and experimental stage, and it is necessary to be constantly reviewing and reassessing the methods in current use. This Committee would, therefore, be glad to hear from any doctor, clinic or manufacturer interested in birth control, in order that it may have the fullest sources of information possible.

All communications should be addressed to the Secretary, The National Birth Control Association, 26, Eccleston Street, S.W.1.

Yours, etc.,

H. HOLLAND,
Acting Secretary.

The National Birth Control Assn.,
26, Eccleston Street, S.W.1.

Reviews

Aids to Psychiatry. By W. S. DAWSON. Published by Messrs. Baillière, Tindall & Cox. Third Edition. Pp. 318+vii. *Price* 4*s*. 6*d*.

THE series of aids to medical studies published by Messrs. Baillière, Tindall & Cox is presumably intended for those students who identify their own satisfaction with that of the examiner. It is, therefore, to be expected that the books will offer a tabulated rather than a correlated presentation of the subject. To those who have a *penchant* for the synopsis method of study which tends, perhaps, to the accumulation of knowledge rather than of wisdom, the series should make great appeal. The subject of psychiatry, though it might not be thought to lend itself readily to this method of approach, has now been included.

The examinee who has a fondness for fact could hardly do better than to read " Aids to Psychiatry." He will find therein a description of the normal mind and its several essential attributes, together with a short summary of the chief views as to " how it works " ; he will find a classification of the causes of mental disorder, and of the mental disorders themselves, together with summaries of the current opinions as to the causation of the neuroses. The psychoses are dealt with well and at greater length; their treatment is ably and practically discussed. These chapters, together with those on Case-Taking and the Legal Aspects of Insanity, form the most valuable parts of the book.

The student who reads this work attentively should have no difficulty in passing any examination on the subject. He will find himself equipped with a name and a definition for every conceivable shade of mental disorder. He will learn that " coprophobia " means " church diarrhœa," and " aichmonophobia " the fear of sharp objects ; that " Pygmalionism " is the gratification of sexual desire by the handling and adoration of statues and images, and much more equally useful information. It is difficult to imagine a work in which there could be more minutiæ of supererogatory nomenclature. For the purpose for which it was written the book is admirably adapted. Whether or not, when he has finished it, the student will have any understanding of the subject will depend on what else he has read.

Surgical Applied Anatomy. By Sir FREDERICK TREVES, Bart. Revised by C. G. CHOYCE, C.M.G., F.R.C.S. Published by Messrs. Cassell & Co., Ltd. Ninth Edition. Pp. 720. *Price* 14*s*.

TREVES'S " Surgical Applied Anatomy " has since its publication in 1883 been regarded as a classic on the subject. It was for years revised by an anatomist, Sir Arthur Keith, and has now once more been taken over by a surgeon, Professor Choyce, and continues to be fortunate in those who have undertaken its revision. Though Professor Choyce states that much of the " anecdotal surgical anatomy " of Treves's time has had to go in the interests of surgical detail, the book still retains an essentially anatomical presentation into which is worked a mass of relevant

surgical material. If the anecdotal style has gone, it remains everybit as readable, and, though intended primarily for senior students, could be read with pleasure from the commencement of clinical studies.

The book belongs to the same series as Hutchinson's "Clinical Methods," and is thus of convenient size. It includes a comprehensive index which adds considerably to its value for reference.

Illustrations of Regional Anatomy. By E. B. JAMIESON, M.D. Section 1—Central Nervous System; Section 2—Head and Neck; Section 3—Abdomen; Section 4—Pelvis; Section 5—Thorax. Published by Messrs. E. & S. Livingstone. *Price* 30*s.*

AS Dr. Jamieson says in his preface, this work is produced as a result finally of having been persuaded to reproduce in book form the diagrams which he has used for many years during his lectures at Edinburgh.

Their aim is not to be a substitute for anatomical specimens, but rather to assist in the revision of the subject; particularly do the diagrams simplify the more difficult regions that are encountered in the ordinary way. This is borne out by the fact that there are no illustrations of the arm and leg, as these can be revised easily with use of dissected specimens. The illustrations are consistently excellent, although we should have liked the colours to have been a little less startling. In spite of the fact that the illustrations are principally diagrammatic, many of them have a wealth of detail, and we should like to comment on the merits of some in Section 2, of the head and neck, and in Section 4, of the pelvis. The latter is probably one of the most difficult regions that the student has to master, but his path will be smoothed considerably should he be fortunate enough to acquire these books.

Besides the actual value of the contents, there is the added advantage that the books are in loose leaf form, so that each illustration may be detached separately and placed in a note book. This latter property would also be of value to those who have to lecture and are not blessed with artists' talents.

The illustrations are arranged in five sections, and the bindings, although not elaborate, are probably adequate for the purpose. The price is reasonable, and each section can be bought separately.

We welcome this addition to anatomical literature, and without any qualms we would recommend these illustrations to all who have to revise their Anatomy, be they student, doctor or surgeon, and, without doubt, these are the best illustrations of regional anatomy that have yet been produced.

Ronald Ross. By J. O. DOBSON. Published by the Student Christian Movement Press. *Price* 3*s.* 6*d.*

THE author of this little book met Ronald Ross during the Great War at Cimino Camp, Toronto, in 1917, when Ross was detailed to deal with the malaria problem amongst the Allied troops in that area. He was so impressed with the personality of Ross that now, 17 years later, he has felt the urge to tell the story of the man in his struggles against the adversities which beset him in his elucidation of the life history of the malarial parasite.

Ross joined the medical profession in deference to his father's wishes rather than by any inclination of his own, and it was not until the age of 37, when working as an officer in the Indian Medical Service in 1883, that he first became interested in Tropical Fevers and their relation to mosquito breeding grounds.

This book describes in a vivid manner how Ronald Ross worked against odds which most men would have regarded as insurmountable. The heat was terrific and the facilities for any type of research, let alone the intense microscope work necessary in the study of the malarial parasite, were hopeless. In addition, Ronald Ross was continually hampered by the official attitude of his superiors.

The object of this book is to bring to the present generation the conception of "service to humanity" which dominated the whole life of Ronald Ross. The author shows us how the æsthetic side of his character was mingled with his work, and makes numerous quotations from his poems which have given Ronald Ross the title of poet-scientist.

Melancholia in Everyday Practice. By EDWIN L. HOPEWELL-ASH, M.D. (Lond.). Published by Messrs. John Bale, Sons and Danielsson, Ltd. *Price* 7*s.* 6*d.*

THE word "melancholia" has, in the past, been used both by the lay public and the medical profession in a vague way to include all forms of depression, both of the psychotic and psycho-neurotic types. This has induced a great deal of confusion amongst those without an intimate knowledge of psycho-pathology. In this monograph the author has followed the teaching of Kraepelin and has used the term "melancholia" to include all the manifestations of the depressive side of the disease "manic depression."

In a book of this size it would be impossible to go deeply into the reasons which led Kraepelin to define the manic depressive state with its varied

manifestations and familial history, and the author has contented himself with an endeavour to help the general practitioner to recognise, diagnose and prognose " manic depression " when he meets it. From the point of view of ætiology, he upholds the psychogenic origin as opposed to the toxic origin of the disease.

The book is written clearly and illustrated with a number of case histories, so that we can recommend it to all those interested in the subject.

Clinical Science. By Sir THOMAS LEWIS. Published by Messrs. Shaw & Sons, Ltd. *Price* 12*s.*

CLINICAL Science is a term introduced by Sir Thomas Lewis to embrace all forms of investigating the symptoms and signs of disease in the patient himself. He says that the legitimate scope of clinical science may be claimed as follows : " Work belonging to it exclusively is any such relating to the identification of disease, to its course, mechanism, diagnosis or management which is undertaken upon man himself."

In this work he brings together the results of his own researches along these lines, and it is amazing when reading it to learn how much he achieved by the close observation of patients without resort to animal experiment. He believes that as far as possible animal experiment should be used in this connection only for the confirmation of theories deduced from observation on the human being or when such observations do not justify the formation of a plausible theory.

In this book Sir Thomas Lewis brings together in an abbreviated form work which has already been written in the *Heart* journal, and he covers most of the field of the circulatory system. The whole subject is full of interest, and will stimulate those who read it to a closer observation of clinical signs and symptoms and a more critical attitude towards accepted beliefs. His deductions are so clear and based on such carefully controlled observations that it is impossible to quarrel with any of them. We can strongly recommend this book to all those studying Medicine, whether as students or practitioners.

Human Anatomy. By Professor MORTON (Columbia). Published by Columbia University Press. *Price* 30*s.*

IN " Human Anatomy," by Professor Morton, there has been a sincere attempt by the author to organise the bewildering series of facts which the student of anatomy has to master, and to present them in a form which will not be too great a tax upon his memory, and to introduce him gradually into the intricacies of the subject.

The work is primarily a dissecting manual, and with this object in view a two-year course has been described. During the first year the whole body is dissected from the point of view of gross structure and the anatomy of the larger organs. During the second year the whole body is once more dissected, with this time attention to minutiæ and the following up of the terminal branches of the blood vessels and nerves.

The work makes no claim to substitute the recognised text-books of anatomy, and, in fact, does not displace other dissecting manuals, as on the first page of the first volume the student is instructed to identify the " Hernates—mammalis, axillaris and pectoralis lateralis " without there being any attempt either in the text or by illustration to show him where these are. Further, it would seem unnecessary in the first year to mention the occasional occurrence of such muscles as sternalis and chondro-epitrochliaris. The terminology, too, is confusing as on the same page an artery is referred to first as " the external maxillary artery " and, a little later, as " arteria maxillaris externa." The illustrations are clear, but suffer from the lack of colour, and there would seem to be no advantage over the standard dissecting manuals now in use.

To make this work worth while would entail the entire rearrangement of the system of dissecting as practised at present. On the other hand, those about to enter for anatomical examinations will derive some benefit from perusing this work and answering the test questions which constitute a valuable adjunct at the end of each chapter.

Sport

Rugby

Guy's v. Aberavon

ON Saturday, November 2nd, Guy's entertained Aberavon at Honor Oak Park and were successful by 2 goals and a penalty goal (13 points) to a penalty goal and a try (6 points).

Aberavon had five of their regular side playing in the Welsh trials, but their substitutes gave such a good all-round exhibition that one could not tell which were the reserves.

There was a fairly good attendance to welcome our visitors from Wales, and the conditions were ideal for fast open play, which both sides showed every determination to develop.

Aberavon had quite as much of the play as the Hospital, and had their passing been of the same standard and accuracy as Guy's, there is no doubt they would have made the score much closer. On the other hand, the Hospital back division were at the top of their form, and tangible results were obtained by straight running and swift following, supported by good goal-kicking.

During the first half Guy's faced a glaring sun, and had all they could do to hold their own against the virile attacks of the visiting forwards. For several minutes they threatened to pierce the Hospital defence, but over-anxiousness or dropped passes spoilt several promising movements.

Early on, Randall made a brilliant run before passing to R. Lewis, but the latter failed to hold the ball when well placed. Soon afterwards Giesen retaliated with a brilliant effort, but here again the movement broke down when Stewart just failed to hold the pass.

A little later Harding, a hard-working forward, punted ahead and caught Llewellyn in possession. The visiting pack quickly gathered round, heeled the ball to Lewis, who made a gallant attempt to drop a goal. However, the persistency of the Welsh forwards was rewarded when Harding intercepted a pass in the Hospital 25 and, showing a fine turn of speed, raced over the line too far out for Dowse to convert.

Both teams were now on their toes, and as a result several penalties were awarded, chiefly through off-side. Kark came very near with one of two entrusted to him, but a little later Alexander brought the scores level by kicking a goal from 30 yards' range.

Encouraged by this success, Guy's played with greater confidence, and near the interval, following a great run by Giesen, Alexander cross-kicked and Bowles just managed to touch down for a try, which Alexander converted with a splendid kick from near the touch-line.

The Hospital started the second half with plenty of confidence, and within five minutes had increased their lead as the result of a capital try scored by Giesen.

Alexander created the opening; receiving the ball some 40 yards out he flashed between the two centres and, when faced by the full-back, gave Giesen a perfectly-timed pass for the latter to race over behind the posts, and again Alexander was successful with the kick.

Aberavon made great efforts to reduce the arrears, and they were distinctly unfortunate to lose Giles, their fly half, with a damaged ear.

The game teemed with exciting incidents, each side being within an ace of scoring on more than one occasion, but the only success was a penalty goal for Aberavon. The kick, taken by Avory, was an admirable effort, from near the half-way line.

Steytler, Alexander and Giesen again played a great part in the success of the Hospital; Steytler's taking of passes in any direction and position being very fine, whilst his kicking was most valuable.

The forwards did exceedingly well against a much heavier pack, and Kark made a great effort to score near the end when he intercepted in his own half and ran to the visitors' 25. Unfortunately he tore a muscle of the leg and had to leave the field.

Team.—O. P. Llewellyn; E. C. Sharp, P. C. Alexander, J. E. Giesen, I. McD. Stewart; J. van A. Steytler, V. H. Bowles; M. R. Kark, A. G. Heberlein, C. S. Darke, A. Forbes, G. J. van der Merwe, I. G. Robin, P. Fletcher, T. A. Hale-Monro.

Guy's v. Cambridge University

PLAYING at home on Wednesday, November 7th, Guy's suffered their heaviest defeat of the season when Cambridge University were successful by 9 placed goals and a dropped goal (49 points) to a penalty goal and 2 tries (9 points).

Both sides had several notable absentees, the University lacking the services of Wooller, Candler, Jones and Leather, and Guy's—Giesen, Heberlein and Kark.

R. C. S. Dick, the Scottish International, made his first appearance for Guy's, but had extremely bad luck when, soon after the start, he damaged an ankle in a tackle. He went off at half-time for repairs, but, although he returned, he was practically a passenger and unable to stop the piercing attack of the opposing back divisions.

Alexander made great efforts to cover up the gap and tackled magnificently, but, with the exception of Wright, who held Fyfe very well, he was poorly supported.

Cambridge were a well balanced side, and all their movements were carried out with lightning rapidity. The team work between forwards and backs, coupled with their opportunism and readiness to turn to the best advantage the mistakes of their opponents, gave them most of their tries.

The 'Varsity forwards were decidedly superior to the Hospital octette, and six of the tries registered were scored by their forwards.

The opening was sensational; in the first minute Guy's swept down the field carrying all before them. A passing movement was started in the Cambridge 25, and the ball was transferred very quickly from Dick to Alexander, who sent in Wright for an unconverted try.

For a few minutes play was fairly even, each side attacking in turn, until a fine raid by the Cambridge pack carried play to the Guy's line and Laird touched down for a try, which Parker converted. This was quickly followed by a splendid dropped goal by Fyfe, who accepted a punt ahead on the touch-line and, taking careful aim, sent the ball between the posts.

Guy's, chiefly through Wright and Alexander, made two or three efforts to get through, but the Cambridge defence was sound and gave away very little.

At regular intervals Cambridge scored further tries through Anson (2) and Laird, one being converted by Fyfe and the others by Parker.

Guy's started the second half with plenty of dash, and a fine run by Wright created a splendid opening for Alexander to score a good try, but his kick at goal hit the upright.

After this success, Guy's fell away badly, their tackling in particular being very weak, and further tries were scored for Cambridge by Johnston (3), Bowring and Rees, Parker converting them all from easy positions.

Team.—O. P. Llewellyn; C. G. Wright, P. C. Alexander, R. C. S. Dick, E. C. Sharp; J. van A. Steytler, V. H. Bowles; H. H. Crabb, P. K. Hopkins, C. S. Darke, A. Forbes, G. J. van der Merwe, I. G. Robin, P. Fletcher, T. A. Hale-Monro.

Guy's v. Birkenhead Park

NOTHING could have been more depressing than the conditions under which Guy's and Birkenhead Park played their match at Honor Oak Park on Saturday, November 10th. Rain fell heavily the whole time, but it was a fast, open game despite the weather, which resulted in Birkenhead Park winning deservedly by 3 tries (9 points) to a penalty goal (3 points).

Guy's made several changes in the team which Cambridge had beaten earlier in the week. In the pack, C. F. Ziervogel, a back-row forward from Cape Town and Stellenbosch, made his first appearance for the first fifteen, and Stanyon-Jaques took the place of Bowles, who was not fit, at scrum half.

The visitors were much the heavier side forward, and with Jennings, their hooker, in such excellent form they dominated all the set scrums. They were also well served by Maguire and Steel at half-back, who were continually setting their threes in motion.

On the other hand Guy's were unable to adapt themselves to the conditions, and with a poor service from the base of the scrum the backs were handicapped and seldom had an opportunity of breaking through. The visiting backs had safer hands when passing was attempted, and their tackling and marking was surprisingly deadly.

In the first half Birkenhead Park were continually dangerous, and it was surprising to see their backs handle the greasy ball with such accuracy. A breakaway by Morton led to their first try, and Holden, who was in close support, had no difficulty in racing over the line near the corner flag.

Guy's made several attempts to get through, but the movements broke down at the critical moment, either through dropped passes or clever tackling by the visitors' outsides.

Morton was mainly responsible for the Park's second score. Receiving the ball from a quick heel in the Hospital's 25 he gave the dummy before sending in Wilson.

Near the interval Alexander reduced the visitors' lead by kicking an excellent penalty goal.

The teams crossed over almost immediately, and a movement on the left wing surprised the Hospital defence in the first minute. Charles and Knowles carried the ball to Guy's 25 and, just as it appeared to go into touch, Steel gathered and zig-zagged his way through to score a try in the corner.

Guy's rallied and tried their utmost to find an opening, but they were met with an impregnable defence in which Knowles stood out conspicuously.

Two minutes from time Giesen made a great effort to get through and, after drawing the opposing defence, passed to Stewart, but Charles was too quick, and flung him into touch a few yards from the line.

Team.—E. C. Sharp; C. G. Wright, P. C. Alexander, J. E. Giesen, I. McD. Stewart; J. van A. Steytler, K. A. Stanyon-Jaques; P. H. Crampton, A. G. Heberlein, C. S. Darke, I. G. Robin, E. R. Davies, C. F. Ziervogel, P. Fletcher, T. A. Hale-Monro.

Hockey

Guy's v. Hertford College, Oxford

GUY'S were not at full strength when visiting Hertford College on Saturday, November 3rd, but nevertheless secured a well-deserved victory by 3 goals to 1.

The weather was mild and sunny when Guy's, winning the toss, elected to play with the setting sun at their backs. Play opened with a run by the Hospital forwards, which was, however, checked. Only about three minutes elapsed, however, when Jenkins gave a good pass to Rowe and, running up, took a return pass between the two packs, to put the Hospital ahead with a hard, low shot.

Following this, play was more even, but Guy's nearly increased their lead when Jenkins drove a half volley at the goal. Unfortunately, however, clearing the cross-bar by about six inches.

Guy's continued to attack, but no further score was recorded, and half-time came with Guy's leading 1—0.

The second half opened like the first, with Guy's forwards attacking hard. It was not for about 15 minutes, however, that they were able to increase their lead when Archer at centre-half put in an excellent shot. Franklin on the left wing soon added another.

Guy's seemed to slack off after these successes, and Hertford scored with a good shot from inside right. Following this, Guy's once more took up the attack, and were unfortunate not to score again when Frankling kicked the ball in following up a shot which had been parried by the goal-keeper.

In the defence, Greene and Archer were outstanding, and Thorne played a sound game.

Result.—Guy's, 3; Hertford College, 1.

Team.—H. V. Brown; T. C. Thorne, A. C. Greene; C. F. Wright, R. G. Archer, A. E. Loden; C. H. Phillips, J. E. Elliott, J. J. M. C. Jenkins, E. B. Rowe (Capt.), J. B. Franklin.

Association

London University Cup
Guy's v. King's

THIS match was played at King's on Wednesday, October 31st, and was marked by the bad luck that the Hospital experienced. After having most of the game they lost by 2 goals to nil.

In the beginning of the first half King's were by far the better team and scored a rather lucky goal—a mis-kick by one of their forwards. After this Guy's improved and were definitely unlucky not to equalise. No doubt they would have done if it hadn't been for the brilliance of the opposing defence.

Midway through the second half, when Guy's were easily holding their own, Lewis was again crocked and had to go off. Then the fate of the Hospital was sealed by King's adding another goal.

In this match the Hospital played much better, the team being much more together.

Team.—A. N. Morley; D. A. Priestley, H. Hayton-Williams; H. Lee, J. Thompson, W. D. Dorr; G. C. Sprigings, R. W. Harvey, C. James, G. G. G. Rees, H. Jones-Lewis.

A.F.A. Senior Cup
Guy's v. Athlon

THIS match was played at Athlon on Saturday, October 27th, in weather which spoilt any chance of good football. Early on, Guy's were very aggressive, going very near to scoring, Rees missing right in front of goal. Then Lewis got away on the left, and his centre was converted by James.

Almost immediately after this Athlon equalised, the defence being at fault. Within five minutes the home team were in the lead, somewhat luckily, as the wind swerved the ball in after it had hit a post.

In the beginning of the second half Guy's had two strokes of bad luck—Lewis and Bugg were both injured and finished the game as passengers on the wing. Even so the Hospital put up a very fine fight, and were very unlucky not to have two further goals.

Team.—A. N. Marley; D. A. Priestley, H. Hayten-Williams; H. Lee, W. D. Dorr, D. W. Bugg; R. W. Harvey, G. James, J. Thompson, G. G. G. Rees, H. Jones-Lewis.

Golf

Cup Tie—Guy's v. St. Thomas's

THIS match was played at Denham on Wednesday, November 14th. St. Thomas's, who fielded a very strong side, won easily by 9 matches to 3.

After doing fairly well in the foursomes, Guy's failed to do themselves justice in the singles, as the succession of easy victories to St. Thomas's testifies. St. Thomas's pass into the Final by reason of their win. Details :—

FOURSOMES

Guy's		*St. Thomas's*	
P. B. Hanbury & A. L. Young	0	T. A. Simmonds & E. H. C. Harper (3 & 2)	1
B. J. Doran & H. B. Thomson (3 & 2)	1	A. H. Knowles & R. H. C. Mole	0
I. Drybrough Smith & B. C. M. Reed (2 & 1)	1	L. G. Taylor & G. A. Wilson	0
C. B. Elstob & A. E. Parrott	0	C. H. J. Bartley & P. W. Milligan (by default)	1
	2		2

SINGLES

P. B. Hanbury	0	A. H. Knowles (5 & 4)	1
B. J. Doran	0	F. A. Simmonds (3 & 2)	1
I. Drybrough Smith	0	E. H. C. Harper (4 & 3)	1
B. C. M. Reid	0	L. G. Taylor (6 & 4)	1
H. B. Thornton	0	R. H. C. Mole (6 & 5)	1
C. B. Elstob	0	C. H. J. Bartley (9 & 8)	1
A. L. Young (1 up)	1	G. A. Wilson	0
A. E. Parrott	0	P. W. Milligan (3&2)	1
	1		7

Hospital Information, etc.

Notice

We have received a small booklet issued by the Paddington Medical Society (obtainable, price 1*s*., from the Secretary, 81, Elgin Avenue, W.9), giving in pence the price and dispensing fee for the quantity usually ordered on one occasion of every item of the National Formulary. In it a prescriber can readily discover the total cost of his favourite mixture or pills. It is a booklet which can be recommended for the use of practitioners dealing with Panel patients.

Pass List

L.D.S.
FINAL EXAMINATION.
November, 1934.
PART I.
Surgery.

E. A. Beach
D. A. Godfrey
D. E. Ashdown
L. C. Bellsham-Revell
W. F. Cooper
G. R. Down
N. L. Forrester
M. E. Gascoine
E. C. Hammond
R. O. Holland
W. S. Jackson
K. A. Keith
E. L. Mole
F. H. W. Peatfield
R. S. Pook
A. G. Richmond
J. F. A. Smythe
D. K. Toulson
C. B. G. Elstob
T. E. Carr
R. H. C. Ballauff
E. B. Briault
J. L. Deuchar
E. Dunstan
D. W. Friendship
P. Griffin
D. E. Holdway
D. A. Ibbetson
J. C. Keay
M. M. Maclaire-Hillier
J. E. C. Peacock
P. V. Peatfield
H. Richards
N. A. Siggers
R. S. Wells

PART II.
Dental Surgery.

C. B. G. Elstob
J. C. L. Wren
H. C. Davis
H. C. French
R. L. V. Henderson
T. E. Carr
C. M. Beales
K. E. J. Fletcher
R. J. G. Hayton-Williams
G. M. Johnson
W. A. Jones
G. J. Parfitt
K. L. Scott
P. G. Sparg
H. C. A. Weighell
W. C. Kendrick
C. A. Reynolds
A. G. Smith
K. G. Swiss

UNIVERSITY OF CAMBRIDGE.
DOCTOR OF MEDICINE.
Alan Eckford.

Papers by Guy's Men

J. C. Colbeck. Enteric fever; the agglutination reaction. *Jour. Clin. Res.*, 1934, xx, 130.

George T. Hankey. Ewing's tumour (endothelial myeloma) of the mandible. *Proc. Roy. Soc.Med.*, 1934, xxvii, 1604; Sect. Odont., 82.

P. McG. Moffatt. True distension cyst of Meibomian duct. *Proc. Roy. Soc. Med.*, 1934, xxvii, 1625; Sect. Ophth., 67.

Maurice Sorsby. Cerebellar abscess. *Proc. Roy. Soc. Med.*, 1934, xxvii, 1683; Sect. Otol., 151.

C. Lambrinudi. Adolescent and senile kyphosis. *Brit. Med. Jour.*, 1934, ii, 800.

—— Fractures near the ankle joint. *Clin. Jour.*, 1934, lxiii, 439.

W. M. Mollison. The treatment of chronic catarrhal otitis media and dry suppurative otitis media. *Clin. Jour.*, 1934, lxiii, 465.

Arthur F. Hurst. On being liverish. *Practitioner*, 1934, cxxxiii, 553.

A. C. Hampson. Jaundice. *Practitioner*. 1934, cxxxiii, 584.

W. E. Tanner. The influence of hygiene on surgery. *Medical Press*, 1934, clxxxix, 439.

Change of Address

A. R. Gillies, 269, West End Lane, West Hampstead, N.W.6. *Hampstead* 2449.

Dr. H. St. J. Silvester, The B.O.D. Co., Ltd., Qaiyarah, Mosul, Iraq.

Appointments

A. R. Gillies, Dental House Surgeon, St. Bartholomew's Hospital.

EDS. { D. P. K. / P. W. C.

GUY'S HOSPITAL GAZETTE

A Journal of Medicine, Surgery, Dentistry and Hospital News.

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PASSIM

THERE has been some correspondence in the *B.M.J.* and an editorial in the *Lancet* on the question of the paucity of students who finally complete the M.B., B.S. degree of London University after having started their medical training with this intention. It is very interesting to inquire into the figures, relative to this point, here at Guy's. The only figures we have been able to obtain are those of students who entered the Hospital during the period 1920-1926. These figures have the advantage of not being influenced by the recent financial depression.

It appears that 293 men entered with the intention of studying for the M.B. Many fell by the wayside, so that only 110 finally completed the degree. But there were 86 men who showed themselves mentally capable of passing the 2nd M.B. and yet did not secure the final qualification. This is a very large proportion of men in view of the fact that the Final M.B. is probably no more difficult in itself than the earlier examinations. The reason for such a figure is not very hard to seek, and is due, we feel sure, to the circumstances which beset a man about the time he is due to sit for the Finals. It so happens that, as a rule, a man can complete the Conjoint examinations some three months before he is eligible to sit for the M.B., and consequently he qualifies on the Conjoint diploma and then, wishing quite naturally to take a responsible post, he applies for a house job, either here or elsewhere. Once having started house appointments the difficulties of finding time and energy to learn the theoretical details of the whole clinical part of the medical curriculum demanded by the M.B. examiners are increased a hundredfold, so that, naturally, he delays taking the examinations. Having completed a series of house jobs, the inclination to sit down and relearn a great deal of material, which he knows will be useless to him in his future work, passes, and after a "flying shot" at the M.B. he takes on a practice or enters one of the Services.

We feel that the remedy for such a state of affairs lies not in the introduction of more degrees, as has been suggested by Sir Ernest Graham-Little, but in making the London M.B. suit the examinee. This could be done by allowing the London student to do as his Cambridge colleague is allowed, namely to take half of his Final examination $2\frac{1}{2}$ years after his entry into the wards. Having completed part of his Finals before taking on the responsibilities of a house appointment, the stimulus to complete the examination would be very much greater. We don't believe that by such means the standard of practical ability attained by the London student would be reduced. The London M.B. has attained quite a false position, for there is no reason why it should be anything more than a qualifying degree, and the awarding of higher qualifications should be the prerogative of the Royal Colleges. The aim of the London Examining Board should be to encourage as much post-graduate work in the way of house appointments as possible, and such work should not be hampered by the necessity of sitting for examinations, which are of such

little value when it comes to applying clinical insight.

WE do not feel called upon to make any apology for contributing to a discussion which every year is deliberated in both the medical and lay press, and is now once more to the fore. The death rate from tuberculosis has declined by a third, and yet during the last 20 years the maternal mortality rate has risen by one death in a thousand deliveries. The annual game of handing the baby on is now being played. Shortly after the War it was, first, the ill-trained midwives and then the general practitioners who were at fault, and from Glasgow came the cry that all mothers should be delivered in large institutions under the care of specialists. Many general practitioners were not slow to point out that their mortality compared at least very favourably with that of the institutions into which their patients were being exhorted to enter. However, the effects were soon felt, and the midwifery practice of most general practitioners has fallen considerably. In the advertisements of practices for sale the inducement is now no longer that there are, say, 200 midwifery cases a year, but rather that there is "no midwifery."

There was next a cry for more ante-natal centres. Extension of these facilities has proceeded fairly rapidly, and now it is estimated that about 40 per cent. of women have ante-natal care, while a further 40 per cent. are under some supervision during pregnancy. There has, however, been no fall, but rather a rise, in the mortality rate.

It remains a lamentable fact that puerperal sepsis is responsible for about half the deaths, and septic abortion is the largest single cause. The problem of puerperal sepsis may appear simple to eminent authorities in other spheres of medicine; that it is "invariably preventable, and, if preventable, why not always prevented?" Mr. Gibberd's reply that perfection is unattainable, and, moreover, that the nearer it is approached the more tedious becomes the effort, presents us with a point of view supported by Mr. Eardley Holland, that under the present standards the mortality figures are as low as they are ever likely to be. One way of altering the standard would be to eliminate the general practitioner from the midwifery service altogether. It has been said that three years' training in a large maternity hospital is necessary to produce a competent obstetrician.

We feel that, whereas the old practitioner, with his large midwifery practice, could give his patients the best possible treatment, it may now be often impossible from lack of practice for this to be so. The general move towards specialised midwifery services may be described as a practical attempt to approach nearer yet to perfection. When the time comes and public money is spent on the establishment of large centres we hope the already existing centres of the voluntary hospitals will be the nuclei upon which they are built.

WE have published in this issue a letter from a man who has had experience of the inside workings of a large hospital run by a County Council and also our own hospital. It is a letter which certainly gives us food for thought. The importance of the big municipal hospitals in this country has increased so rapidly during recent years that we sometimes wonder whether they will ever supersede the voluntary institutions as centres of thought and teaching. As centres of teaching, perhaps the establishment of a post-graduate school under the auspices of the L.C.C. is the thin edge of the wedge. The most pertinent question which this letter raises is that of the admission of acute cases to the hospital, and we feel that perhaps something could be done towards alleviating the physical stress which taking-in so often entails.

MR. EASON has also sent in a letter, giving us the history of the trees in the Park. We are relieved to hear that, apart from the two which have already been felled, the trees are to be left as they are. In mentioning the names of Addison and Bright in our plea for mercy on the trees we had no intention of implying that these two great men were living at the time of their planting, but merely as the names of men who we feel sure would deplore any change which would entail throwing the austerity of the hospital buildings into more bold a relief.

ON December 22nd we publish our Christmas Number. In it we are including an account of "Ruddigore," which the Hospital Operatic Society produced at the Fortune Theatre. It had four very good nights there, and was one of the most successful productions of the Society. The Christmas Number will only include non-medical or quasi-medical subjects, and will see the commencement of a short series of articles by Dr. Campbell on Sherlock Holmes and Dr. Watson.

Guy's Hospital Gazette

The Editor will, at all times, be glad to consider articles or sketches, provided that they are accompanied by the writer's name and address, not necessarily for publication. Authors who desire reprints of their papers should make their own arrangements with the Printers when they return their proofs. All contributions to be addressed to *The Editor*, who does not accept responsibility for the views expressed by contributors

Changes in the Nails

A Clinical Lecture by Dr. Forman

THE nail is produced by the growth of a specialised portion of the epidermis, and any constitutional changes interfering with the nutrition or normal growth of the epidermis may produce changes in the nail. Further, diseases of the skin may be accompanied by certain changes of the nail plates or the nail beds. One of the first signs of imperfect nail growth is an accentuation of the normal faint longitudinal grooving. The nail splits more easily as the result of trauma, and may also show transverse grooving. The latter is due to a period of diminished activity of the growing cells, producing only a thin layer of horny cells. To give the approximate date of an illness which has produced a transverse groove across a nail, the distance between the groove and the base of the nail should be measured, remembering that the nail takes four months to grow half to three-quarters of an inch. The white opaque spots on the nails, leuchonychia, are also produced by epithelial cells which are imperfectly formed and subsequently dry and shrivel, being replaced by air. Leuchonychia has been seen with recurrent exacerbations of catarrhal infections of the nose and accessory sinuses.

The normal growth of the skin can be modified by arsenic taken over a long period. The arsenic is deposited in the epidermis, where it can be demonstrated by micro-chemical methods many years afterwards. The skin, particularly of the palms and the soles, is rough and hyperkerstotic, with a tendency to splitting of the thickened horny layer and the formation of warts.

The nail plate is stunted, ridged and brittle, and the nail bed may show the hyperkeratosis to be seen elsewhere.

Roughness and scaliness of the skin has been described recently as a sign of Vitamin A deficiency. Although in the published accounts no mention is made of nail changes, it is not unreasonable to expect that some cases of Vitamin A deficiency will show either abnormal striation or brittleness of the nail plates. I would recall the changes that you are familiar with in hypothyroidism, the dryness and harshness of the skin, and the nails are also brittle and show the alteration in shape known as koilonychia or " spoon nails." It this condition the centre of the nail is depressed with raising of the lateral and free borders so that a good-sized drop of water may be comfortably retained in the trough. This interesting deformity of the nail is more often observed in the anæmia known as " idiopathic hypochromic anæmia." Although, no doubt, to most of you this condition is familiar from the teaching in the wards, and particularly the writings of Witts, I will briefly recapitulate the clinical findings in these cases.

The subjects are women between the age of 30 and 50, who may have no general symptoms or may complain of fatigue and listlessness. There may be soreness of the tongue, indigestion, dysphagia. Nail changes are noted in about 40 per cent. of cases, and range from complaints of soreness of the nails, brittleness of the nail plates, to stunted nails and koilonychia. The tongue may be smooth with papillary atrophy, sometimes limited to the lateral margins.

Examination of the gastric juice shows in some cases, estimated up to 80 per cent., a low or absent hydrochloric acid. The blood shows a diminution in the number of red cells down to 3 mills per em. The red cells are smaller than normal, and the colour index may be reduced to .6.

I would emphasise that these cases frequently can be diagnosed at Skin Out-Patients, where they come for advice on the deformity of the nails, with occasionally soreness of the tongue and fissuring of the angles of the mouth.

The treatment is to give adequate amounts of iron by mouth, the dosage being controlled by the therapeutic result. It may be necessary to give 4 to 6 gms. a day of iron and ammonium citrate. The nails grow normally when the treatment is instituted, but should a relapse take place and anæmia return, the tenderness and deformity of the plates will recur.

The nails may show changes together with other epithelial structures, such as the teeth, and may be either absent or deformed at birth or develop such changes shortly after birth. Cases have been described where the nails have been absent, associated with absence of the patellæ and other skeletal deformities.

The Hippocratic or clubbed finger with its curved nail is sometimes congenital and transmitted as an irregular dominant.

The nail fold and bed are often the site of both acute and chronic infection. Acute paronychia is familiar to you, and there is no reason to discuss it here. The infections which are of interest to the dermatologist are the chronic ones—with a streptococcus, the monilia pinoyi, the trichophyton and the spirochæte of syphilis. The first two infections may produce rather similar appearances. Several or all the nails may be involved, the infection usually commencing with redness of one

side of the nail fold with swelling and tenderness, the whole of the root of the nail later showing the same change. As a rule the streptococcal type is more acutely painful and tender, with a greater tendency to lose the nail.

It is worth remembering that in some of the streptococcal cases the chronicity of a paronychia may be due to unnecessarily prolonged hot fomentations and soaking. The water macerates the horny layer of the epithelium which is endeavouring to re-form, and actually favours the spread of infection.

The infection of the nail folds with monilia is often seen in patients who have their hands kept constantly wet, *e.g.*, barmaids and washerwomen. The appearance is characteristic. Several, or it may be all, of the nail folds are red, raised, bolster-like, with disappearance of the cuticle. A thin sero-pus can be squeezed from beneath the nail fold. The nail plate becomes thickened, ridged and discoloured, but it is doubtful if the yeast does invade it.

A monilia paronychia is frequently associated with a monilia intertrigo of the webs of the fingers or the groin, and you will remember that in such cases it is always wise to examine the urine for sugar. Paronychia is rare in ringworm infections, but does occur. The infecting fungus is one of the varieties of trichophyton, and in such cases there will always be marked changes in the nail plate.

Paronychia may be seen in both congenital or acquired syphilis.

In congenital syphilis, macules may appear around the nail fold and later become bullæ, being apt to acquire secondary infection with the streptococcus or staphylococcus.

A case seen at Out-Patients recently in a healthy infant showed at the bases of the nails on the fingers small highly reddened areas surrounded by a fringe of horny layer. The appearances were those of a subsiding streptococcal infection. There were, however, fading macules on the palms and soles, and the Wassermann was strongly positive.

Digital chancres are not unknown among doctors and nurses, and are frequently not diagnosed. It may be difficult to distinguish from an ordinary pyogenic suppurative infection. Typically, however, a chronic, painless, induration around a nail discharging pus, or an indolent granulomatous area around a nail should raise the suspicion of a chancre. Tertiary syphilis may affect the nail bed with the formation of a chronic granulomatous indurated area, usually with loss of the nail.

We will now pass to a short consideration of some of the changes to be seen in the nail plate.

Sometimes in tertiary syphilis the nails are thin, brittle and markedly longitudinally striated, known as onychia sicca-syphilitica, and is due to interference with the nutrition of the nail matrix.

A much more important and common change in the nail plate is produced by a ringworm infection, usually the trichophyton violaceum acuminatum. It grows and lives in the nail plate, but does not usually invade the matrix, so that the nail plate is being constantly formed and the new horny cells in turn become infected.

The infection usually commences at the lateral free border of the nail and invades the nail bed, producing hyperkeratotic scaly masses which may displace the nail plate. The nail plate when invaded becomes brown, thick and distorted. A case has recently been shown of extreme distortion of a toe-nail, onychogryphosis, in which ringworm fungus was found in scrapings after removal. It may be mentioned that the nails are sometimes repeatedly avulsed when infected with ringworm, because of the deformity, without the true nature of the condition being recognised. In some cases the infected nails become friable and rough. All or only a few of the nails of the fingers or toes are involved.

Diagnosis is readily made in any doubtful case by taking scrapings of the nails and examining them microscopically after prolonged soaking in potash solution, when the mycelial filaments are seen.

We are all familiar with the ringworm of the feet due to the epidermophyton fungus, producing the intertrigo between the toes—" athlete's foot," so called. The condition is noted for its tendency to recur even after thorough treatment, and it has been recently shown that the toe-nails are infected and are the source of the recurrences.

Ringworm of the nails is a most difficult condition to treat. The problem is comparable to that presented by ringworm infection of the scalp in children. The fungus is present in dead, horny material inaccessible to local applications—the nail and the hair is continually being formed. There is no reason why the infection should not persist indefinitely. In the case of the hair, with X-rays we produce a temporary fall of hair, and can destroy the fungus remaining in the sides of the follicle quite readily. The new hair which then grows is uninfected.

The treatment which is most efficacious is to remove the nail carefully and as completely as possible under anæsthesia and scrape the nail bed. The fingers are then dressed with a 3 per cent. solution of iodine. The operation has often to be repeated. Some dermatologists after the nail

has been removed give fractional doses of X-rays to the nail matrix—a ½ P.D. weekly for three weeks. A method which I have found successful is to soak the nail in 10 per cent. potash solution, scrape as much away as possible, and then apply a carbolfuchsin paint.

I have also injected extract of the fungus trichophyton around the nail to endeavour to produce an immunity to the fungus.

Occasionally favus affects the nails, but this type of fungus infection is extremely rare in this country.

I will now consider the changes seen in the nail in association with other cutaneous diseases. In patients who have widespread eczema or one of the forms of lichenification and who spend a good deal of their time rubbing their skin, the nails become very highly polished and the free margin worn down flat. It is worth being familiar with this change because some of these patients deny rubbing the skin and need such an anatomical demonstration to convince them.

Psoriasis produces some thickening of the nails with small pits, which are characteristic, and may help in the diagnosis of an atypical patch elsewhere of the body. Psoriasis papules may develop on the nail bed, usually towards the lateral margins, and produce a brownish area seen through the nail plate.

Other cutaneous diseases, such as lichen planus, pityriasis rubra pilaris and darier's disease, produce nail changes, which are, however, not particularly characteristic.

In conclusion, I would recall to you the fact that the application of cosmetics to the nails is a common practice even if one to be deprecated. It sometimes happens that the skin around the nails is sensitive to the particular paint used and an acute application dermatitis results.

Anæsthesia in Dental Practice

A Paper read before the Dental Society of Guy's Hospital on Tuesday, 30th October, 1934, by R. L. Soper, Esq., M.R.C.S.

MR. PRESIDENT and GENTLEMEN,—I want this afternoon to review some of the possible methods of anæsthesia suitable for dental surgery.

I would like to make it clear at the outset that if I fail to mention a particular method or drug it is partly because I have to keep this paper within reasonable limits, and partly because I wish to speak only of methods with which I am personally familiar. You will all realise, I think, that in detail the administration of anæsthetics is largely a matter of personal prejudice and some will disagree with my views on certain procedures.

I do not want to trouble you with the history of the subject (those of you who are interested I would refer to Dudley Buxton's excellent account), but I think I might remind you that it was an American dental surgeon who first used nitrous oxide as an anæsthetic agent in 1844, courageously having it administered to himself first.

I should like to start by impressing on you the immense help of the right psychological atmosphere before and during the induction of anæsthesia. I think probably a kindly but matter-of-fact attitude toward the patient is the most satisfactory. Too solicitous a manner is just as bad as the callous exhibition of forceps and the roar of escaping gas. Make all the weapons of your calling as inconspicuous as possible.

Patients will be very grateful if you tell them what you want them to do. Remember that they, in all probability, have never seen an extraction before, and what is so familiar to you is to them a novel experience of the first importance. It is a very unpleasant experience to feel that one is entrusting one's life to the hands of another, and that is the feeling in everyone's mind who has an anæsthetic. Tell your patient, as simply as possible, what you want him to do, and, when he does it, tell him that he is doing well. An occasional kind word until consciousness is lost will be much appreciated. In many cases the dental surgeon will be well known to the patient, whilst the anæsthetist will be a comparative or total stranger. When this is so it will often be found better for the dental surgeon to encourage the patient rather than the anæsthetist. Once the anæsthetic has been started only one person should speak; if both surgeon and anæsthetist start advising the patient at once, the result is often chaos.

Except for the few remarks to the patient, *absolute silence* should be maintained in the room. At the commencement of an induction any sound makes the patient apprehensive that a premature start will be made. Later, as consciousness is lost, all sounds become greatly exaggerated and may cause much distress. Remember that auditory sensation is the last to be lost, and sometime is not lost at all under nitrous oxide anæsthesia.

When the operation is finished and the patient is regaining consciousness bear in mind that he

feels before he has completely regained his wits. Forcible removal of a prop, sponge, etc., may convince him that this is the extraction, and that the anæsthetic is a failure. Finally, remember the advisability of having a third person present during a general anæsthetic, especially with female patients, as hallucinations whilst under an anæsthetic and persisting afterwards have on more than one occasion resulted in legal proceedings between patients and practitioners who have ignored this rule.

Let us now consider the anæsthetics themselves.

LOCAL ANÆSTHETICS

With regard to local anæsthetics I intend saying only a few words.

Remember that cocaine is a dangerous drug when injected, death having resulted from this practice; therefore use one of its substitutes, such as novocaine.

Percaine (which has no pharmacological connection with the cocaine group), I would remind you, is extremely lasting in its effects; there is consequently a greater danger of the patient injuring the anæsthetised area after operation.

Fainting under local anæsthesia, apart from psychological reasons, is often due to the adrenalin mixed with the anæsthetic. Beware of this and be sparing with the drug in nervous patients. I know one dental surgeon who adds a small dose of strychnine to his "local" to minimise this effect.

Do not forget the inadvisability of using a local anæsthetic in infected tissues.

Lastly, I would commend to your attention the use of an anæsthetic to the mucous membrane, such as topocaine. The initial prick of the needle is often dreaded by the patient as much as the actual extraction.

GENERAL ANÆSTHETICS

We come now to general anæsthetics. First of all a few remarks which apply to them all. How should the patient be prepared for an anæsthetic? At the time of operation the stomach should be empty, the bowels should be empty, and the bladder should be empty. No food should be taken for three hours previous to the administration of an anæsthetic, and the last meal should be one which is easily digested and should contain both fluid and sugar. For "gas" no special preparation of the bowels is necessary; in the case of chloroform, ether, etc., a more thorough, though not too drastic, preparation is desirable. The bladder should be emptied invariably immediately before the patient enters the operating room.

One of the cardinal rules of anæsthetics is to *keep a free airway*. Neglect of this not only greatly increases the risk but also leads to venous congestion, and this, owing to the consequent excessive bleeding, greatly hampers the surgical manœuvres. To the above rule I will add: See that nothing but air (and anæsthetic vapours) pass down the airway. Always take every possible precaution to avoid the inspiration of foreign material into the lungs. Do not forget that a suction apparatus is one of the most useful adjuncts to all operative procedures within the mouth, and greatly simplifies the anæsthetist's task.

Test most carefully all apparatus before applying it to the patient, and make sure there is an ample supply of all necessary agents. There is nothing more demoralising to all concerned than running short half-way through the operation. Restoratives and apparatus in case of emergency should be at hand and tested to see that they are in order before the patient's arrival.

Let us now consider general anæsthetics suitable for using in the dental chair. As anæsthetic agents we have: Nitrous oxide, ethyl chloride and evipan sodium; on the advisability of using this last in the dental chair I will speak later.

NITROUS OXIDE

Nitrous oxide or, better, nitrous oxide with oxygen, forms an ideal anæsthetic agent for dental work. Induction is quick and recovery equally speedy; there is no unpleasant smell, and usually the patient suffers from no after-effects.

"Gas" may be used for children, though, apart from the mental attitude of the child, which must be carefully met, a considerable amount of experience is desirable, as the margin between full anæsthesia and asphyxia appears to be much smaller than with the adult. I recommend that nitrous oxide should be given to children only in combination with oxygen, and the apparatus should allow of inflating the lungs with oxygen under positive pressure if need be; also I do not consider a child of under six years of age a suitable subject for "gas."

"Gas" may be administered to the patient in three ways. What is often called a "straight gas" may be given, it may be administered nasally, or by the endotracheal route. This last I shall consider under methods suitable for the larger operative procedures, as it is but rarely indicated for an extraction which is undertaken on an ambulant patient. The "straight gas" is of very limited value. Anæsthesia under such conditions lasts only about one minute, and it is better reserved for the extraction of a single tooth, where no difficulty is anticipated, or, in those cases where

the patient for one reason or another cannot breathe through his nose.

" Nasal gas " is ideally suited to dental extractions, and it was developed for that purpose. If given with oxygen no difficulty is usually experienced in keeping the patient anæsthetised for any desired length of time, though it is undesirable to administer gas to a patient for a considerable period who has to return to his house soon after just because it is possible to do so.

Probably the simplest practical apparatus is the one with which you are all familiar in the extraction rooms here, that devised by Truby. With this a mixture of gas and air can be given. A slightly more ambitious apparatus is the De Caux McKesson, in which the bag is kept automatically filled and delivers the gas at a constant pressure, which may be varied at will. This enables the anæsthetist to concentrate on his patient, free from the fear that his bag will either burst or become empty.

Amongst gas and oxygen apparatus we have the Hewitt, which, providing the bags are kept filled at the same pressure (*i.e.*, each bag is equally distended), will give a mixture which corresponds to the reading on a scale, and this mixture may be varied by means of a single lever.

A more complicated type of apparatus works on the " intermittent flow " principle. In these machines delicately balanced valve gear ensures that the gas mixture only flows when the patient inspires—a considerable economy of gases is claimed. When necessary, the pressure of the gas may be increased, the valve balance overthrown, and the mixture blown in under pressure. Machines of this type are the Walton, the Magill and the McKesson Nargraf. This last also enables fractional rebreathing to take place under pressure, thus allowing of the economy given by rebreathing without loss of pressure, which may be desirable. This is made possible by replacing the usual rubber rebreathing bag with a spring loaded bellows. The Magill intermittent-flow apparatus allows of a mixture of either gas and oxygen or gas and air to be administered.

The nose-piece of a nasal gas apparatus is a most important item. On the fit of this the success of a given apparatus stands or falls. It should be airtight, comfortable and compact so as not to get in the way of the surgeon. Nose pieces may be divided into two principal types : those with a valve to admit air (usually employed in gas and air machines such as the Truby) and those with an expiratory valve only. They may be made of metal or rubber. Probably one of the most successful is the McKesson type ; this is made of rubber and has an inturned rubber flange. The force of the gases presses these against the face and ensures a good fit. It is supplied with an adjustable spring loaded expiratory valve only. It is very small in size and may be easily cleaned.

It is sometimes difficult to make the patient breathe only through the nose, and many different types of mouth cover are available. Some of these are so constructed that gas may be inhaled through them as well as through the nose-piece, others merely have an expiratory valve, whilst a third type are simple airtight covers. It has always seemed to me that providing the patient has a free airway through his nose no mouth breathing should be permitted. If a cover is placed over a patient's mouth, through which he can breathe either in or out, he will tend so to do, thus rendering the anæsthetic more difficult to administer during the operation.

I, therefore, favour the last type of mouth cover, namely, some simple pad placed over the mouth, but please do not use the bare hand, as I sometimes see done ; any sensitive patient will greatly resent this practice. With a little encouragement a large proportion of patients will breathe through their noses, and most of the remainder will do so if a pad (such as a piece of gamgee tissue) be placed over their mouths. Those who will not breathe in the desired manner after one or other of these procedures have been tried are best induced with a mask over both mouth and nose, and will probably be found to have blocked or narrow noses, or a highly arched palate, and will probably cause difficulty throughout. A tube through which gas may be blown, and bent into the shape of a hook, may be placed in the side of the mouth and is a help in such cases.

ETHYL CHLORIDE

Ethyl chloride is much used for dental extractions in children, and may occasionally be used with advantage in adults.

In this hospital the majority of extraction cases in children are anæsthetised with this drug. The whole atmosphere of the Department renders the giving of gas very difficult, as the child, by the time he is ready to be anæsthetised, has more often than not lost his nerve. One realises the inevitability of the present regime where so many patients have to be dealt with, but one cannot help feeling sorry for them as they sit in their woeful ranks, torn from their parents only after a long and nerve-wearing wait, to be taken into a room full of strange faces and unfamiliar objects, to hear yells issuing from the next room as a herald of the arrival of the " doctor."

Ethyl chloride is quick, convenient and, providing it is given by someone thoroughly familiar with its properties, safe; series of many thousand consecutive administrations are available without a single fatality.

Never give ethyl chloride to patients suffering from disease of the respiratory tract, as it is a powerful stimulant to the glands secreting therein. In children of the exudative type an injection of 1/100 grs. of atropine sulphate is a wise preliminary.

Anæsthesia with ethyl chloride is comparable with the "straight gas." The drug is administered until the patient is well under its influence, and then the mask is removed. It is possible to obtain up to about 90 seconds anæsthesia in this way.

The great drawback to ethyl chloride is that it tends to produce muscular spasm, frequently of the jaw, more rarely of the larynx. Spasm of the larynx is always a worrying complication; in most cases it will pass off in a few seconds, but occasionally a tracheotomy is necessary to save the patient's life. Although you will probably never have to use it, always have a tracheotomy set to hand when ethyl chloride is used.

Many ingenious ethyl chloride inhalers have been devised in which the drug is liberated in a bag, and a mask, similar to those used for nitrous oxide, is placed over the patient's face. They are very economical and quick in use, but there can be no doubt that they increase the risk.

I advise you to use ethyl chloride in the way you are taught here, namely, by spraying it on to a Schimmelbusch mask covered with several layers of gauze. Spray gently at first and stop spraying if the patient holds his breath, and thus aviod a too sudden induction, which, besides being unpleasant, may prove dangerous.

The product scented with eau de cologne is much less objectionable to the patient.

EVIPAN SODIUM

I now come to the vexed question: Should evipan be given in the dental chair? This is a controversial point on which I do not propose to give a decision. When a patient, as is now sometimes the case, particularly asks for this drug, the decision as to whether it shall be given or not will, of course, rest with the anæsthetist, who should in all cases when this drug is used be medically qualified. The concensus of opinion is very definitely in favour of the view that evipan should not be given by the dental surgeon. The very ease with which anæsthesia may be induced with evipan is one of its principal sources of danger in inexperienced hands. Another point to be considered is that some individuals take a considerable time to recover from its effects and may require constant observation whilst so doing. Therefore, unless a recovery room is available where the patient may stay for some hours, if need be, and a skilled person can be in attendance, evipan should not be employed.

Evipan sodium is put up in ampoules containing 1 gm. of the powdered product. It is made up as a 10 per cent. solution, just prior to injection, with sterile distilled water supplied with it. It has been found better to make the solution some ten minutes before use; this is said to obviate the tremors which sometimes result when a solution is injected immediately after preparation.

There are two popular methods of making the intravenous injection. In one the solution is administered steadily at a rate not exceeding 1 c.c. every 15 seconds until consciousness is lost, then a further dose may be given at a rate of 1 c.c. in 10 seconds. In the other method 3 c.c. are injected quickly and a pause then made until the patient loses consciousness; when this occurs a further small dose is given if required. It is, of course, difficult to give exact figures as there are many variables, such as size of patient and personal idiosyncrasy. The object should be to give the minimal effective dose and most beginners err on the side of over-dosage.

I, personally, consider it unwise for the patient to be sitting up, and think that the patient should be placed in a recumbent position.

Evipan depresses respiration, and this should be most carefully watched. In the event of respiration ceasing, artificial respiration should be started at once and air or oxygen containing a fairly high percentage of carbon dioxide administered until normal breathing is restored.

Cases of laryngeal spasm under evipan have been recorded. In these cases an endotracheal tube should be passed without delay (it is usually possible to insinuate the bevelled end of a Magill tube through a larynx in spasm), and then the foregoing procedure employed.

Icoral and coramine, two proprietary analeptics, are of great value in cases of overdosage with evipan.

Early and complete relaxation of the jaw is one of the characteristics of evipan anæsthesia, and care must be exercised to maintain the airway.

RESTORATIVES

The dental surgeon is well advised to keep at hand a stock of restoratives in case of emergency. Oxygen and carbon dioxide, the latter being conveniently stored in the large-size sparklet bulbs, should always be available.

Strychnine (1/15 and 1/30 grs.) may be obtained in " Tubunics," a convenient packing which is in itself a syringe, and is a most valuable stimulant on occasions.

Icoral (Bayer) is packed in 2 c.c. ampoules; 1 c.c. may be given intravenously, and up to 2 c.c. intramuscularly.

Coramine (Ciba) can be given in somewhat larger doses by the same routes. Both these drugs stimulate both the heart and the respiratory centre.

The methods of artificial respiration should be familiar to you all; before employing it make sure that the airway is good, and do not forget the value of tongue forceps.

Absence of a good airway is the most common cause of collapse.

ANÆSTHETICS SUITABLE FOR LARGER OPERATIVE PROCEDURES

For operations which will be undertaken in an operating theatre, and which may take some considerable time, anæsthesia by the endotracheal route is the method which has so many advantages that I do not propose to consider any other in this paper.

By this method the airway is automatically maintained, regardless of the position of the patient's head, the anæsthetist does not get in the surgeon's way, and all fear of the inhalation of foreign matter is obviated.

The older method of endotracheal anæsthesia is well known at Guy's and has been used here since its introduction by Sir Francis Shipway many years ago. Anæsthesia is induced with chloroform and ether, or one of the basal narcotics such as avertin may be given first. When a sufficient depth of anæsthesia has been reached, a direct vision laryngoscope is passed and a gum elastic " Shipway " catheter passed between the vocal cords. The catheter is then connected to a machine by which ether vapour and air are pumped down into the lungs, expiration taking place round the outside of the catheter. A safety device is incorporated which assures that the pressure within the system cannot exceed a predetermined value (usually in the neighbourhood of 30-40 mm. of mercury). This is necessary to avoid possible damage to the lungs if the patient should get a spasm of the glottis, and expiration becomes impossible.

The foregoing method is known as the insufflation method; recent development has been in the direction of the inhalation method. In this the patient breathes only through tubes passed by the anæsthetist. It thus becomes possible to pack the pharynx, and the possibility of blood, saliva, vomit, or other foreign material entering the lungs is obviated. The method also enables a true gas and oxygen anæsthetic to be given.

In one method two tubes are passed, the patient inspiring through one tube whilst expiration takes place through the other (Rowbotham). In Magill's method one wide bore tube is employed for both inspiration and expiration, thus enabling any desired degree of rebreathing to be obtained, and also having the advantage of being more simple. Magill pointed out that a slightly curved tube introduced through the nose with the head slightly extended will, providing there is no marked deviation of the nasal septum, enter the trachea if it be introduced during inspiration. Except in cases of nasal or sinus infection, it is suggested that this method be tried first. The absence of tubes in the mouth is an obvious advantage; also the necessity of direct laryngoscopy, and consequently a deep degree of anæsthesia, is abolished. If it is found impossible to pass the tube into the larynx blindly as described above, a laryngoscope can be passed, the end of the tube picked up in the pharynx with Luc forceps or those specially designed by Magill, and guided through the cords.

This method is so satisfactory and is achieving such universal popularity that I propose to describe it in detail. It is desirable to give the patient some preliminary medication before he leaves his bed. This may take the form either of a basal narcotic, such as avertin or nembutal, or it may be a sedative, such as morphia or omnopon combined with hyoscine or scopolamine. If the latter method is preferred, a small dose of evipan may be given on the operating table to ensure a speedy and pleasant induction.

The nose and throat are then sprayed with a cocaine spray. One " puff " to each nostril and one to the pharynx is sufficient. Magill advocates a 20 per cent. solution of cocaine, as it is claimed that less absorption takes place with the stronger solutions. In any case it must be realised that only a very small amount is required.

When the local anæsthetic has been applied a mask is placed over the patient's face and gas and oxygen given. A trace of ether is added and this mixture is administered, until the patient is breathing deeply and regularly and no coughing occurs. As soon as the above condition is reached, the mask is removed and a well-vaselined Magill tube is introduced through one or other nostril. The tube should be kept in the inferior meatus of the nose and close to the septum. It will be found that in the majority of cases it will slip easily into the pharynx, and if this is not the case a slightly smaller tube should be selected or the other nostril tried. Once the tube is in the

pharynx, which can be told by the free passage of breath through its lumen, a pause should be made until the patient inspires, when it should be pushed home. Slight coughing and continued free passage of air through the tube heralds a successful result. Should the tube have passed into the œsophagus a slight click can frequently be felt by the hand which holds the tube, as it slips over the epiglottis. A very small amount of air can be heard escaping through the tube even under these circumstances, but the forcible breathing through the tube of a successful intubation can never be mistaken. If the tube does not pass the glottis, owing to the cords not being separated, when an attempt is made, it is found impossible to get the tube all down the nose. In this case it has probably entered the pyriform fossa and can be felt there externally. Beside having a curve throughout its length, the tube has a bevelled end to facilitate its passage through the cords. Rotation of the tube will often result in success when difficulty is encountered.

The position of the head is important, too great a degree of extension is probably the commonest cause of failure. A pillow should be left under the patient's head, and sometimes lifting the head off the pillow (actual flexion) will be necessary.

When the tube is in position the pharynx should be packed, to prevent respiration taking place outside the tube, which might result in the inhalation of foreign material, and which also unduly increases the percentage of oxygen inspired. It is important that dry gauze should not be used for packing, as this leads to post-operative sore throat. A length of five-inch bandage soaked in paraffin and squeezed out is suitable, or, better, gauze boiled in vaseline.

Any gas and oxygen machine either of the continuous-flow or intermittent type is suitable, providing that an ether vapouriser, an expiratory valve near the patient, and a saftey blow-off valve are incorporated.

Before finishing let me mention a few contra-indications.

Do not use adrenalin after chloroform has been administered.

Kidney disease and liver disease are contra-indications for avertin, nembutal and evipan.

Beware of nitrous oxide in case of heart disease.

Ether and ethyl chloride should be avoided in the presence of pulmonary disability.

Finally, always aim at the highest possible point of safety. Do not use methods, drugs or apparatus with which you are unfamiliar, and let me repeat, always test the apparatus thoroughly before use.

Remember that your patients will expect you to advise them about their anæsthetic, and that when you call in an anæsthetist he is responsible for the patient's life and is the doctor in charge of the case.

A Journey to Iceland

By R. D. Gillespie, Esq., F.R.C.P.

IN 1810 Richard Bright visited Iceland, and in a book entitled "Travels in the Island of Iceland," compiled by Sir George Mackenzie, the leader of the expedition, Bright's experiences as geologist, botanist and zoologist to the expedition were subsequently recorded.

Bright's party must have had much of the spirit of adventure, because it is only since the harbour was built at the capital town of Reykjavik in 1916 that development appears to have occurred in a modern sense. Indeed, in the opening chapters of "Travels in Iceland," the leader of Bright's party recorded that, "while Iceland is but a little distant from Britain, its position has not been very accurately ascertained." Nevertheless they made their landfall seven days after leaving the Orkneys, after some apprehension of danger from the tides off the Westmann Islands. It is recorded that Bright and his party could not help being impressed by "the very uninviting appearance of the country." They arrived ultimately in Reykjavik, which was very different from the Reykjavik of modern days, since it consisted of a few wooden houses, dignified, however, by the presence among them of one or two stone buildings, of which possibly the most comfortable was the prison.

Even yet the misconceptions regarding Iceland among most of those who have not yet seen it are probably profound. Icelanders regret that their country should have been so named. The name is said to have been conferred on it by an early Viking who, being a hearty and careless fellow, lost nearly all his flocks in his first winter there, and excused his failure on his return to his native Norway by painting a gloomy picture of the severity of the climate. It is true that we saw glaciers the lower edge of which came almost to sea level even in August on the south-east coast, but the Gulf Stream assures that the winters on the south-west coast, on which Rejkjavik is situated, are comparatively mild. The inhabitants of Reykjavik, which, by the way, is said to mean "the smoky city"—another version of "Auld Reekie"—

complained to us that they had had only four days' ski-ing near the town last winter. On the other hand, Greenland, which is about 600 miles away, is so called by an euphemism. Could the names Greenland and Iceland be interchanged it would be more just

We embarked at Wapping and, as we slipped down the river, the spire of Hunt's House was visible over the roofs of the warehouses. At Leith we changed into the boat which was to take us to Iceland. We trembled a little as it was smaller than the one we had left and very much older. In fact, we surmised that she must be one of the oldest passenger steamers on Lloyd's Register. We were to realise later on, although not on the outward voyage, that we were not far wrong.

Bright also had embarked at Leith, but, whereas we sailed through the Orkneys, Bright had to change at Stromness into the ship that was to take him to Iceland. On the other hand, we had the advantage of calling and having a few hours ashore at the Faroes, two hundred miles farther out in the Atlantic. They are a much larger group of islands than we had imagined with about 20,000 inhabitants, returning two members to the Danish Althing or Parliament. The inhabitants are almost exclusively concerned with fishing and hunting, and almost no young men are to be seen ashore during the fishing season. The annual casualty rate among their fishermen is about of the same order of size as that among our Air Force. This arises largely from the fact that they cannot afford steamships and still use sailing cutters which were sold them by the Icelanders when the latter acquired trawlers, who in turn had obtained them from Britain many years ago—soon, I suppose, after steam trawling had been introduced.

The scenery of the Faroes is remarkable for the height of the cliffs, which in places rise sheer out of the sea for nearly 2,500 feet. The only characteristic products of the islands other than fish that we came across were an attractive kind of sweater and a hat worn by the men which might be described as a kind of striped glengarry.

We left the Faroes behind at about three in the afternoon, and on the following evening we first saw the cliffs which form the south-eastern shore of Iceland, across a murky sea with trawlers scattered here and there between us and the land. We reached the Westmann Islands, off the south-western angle of Iceland, at midnight and stayed up to see the islanders being slung on board in a basket, some of the men quaintly attired in well-worn examples of the " short black lounge coat," worn, like the tailed kind, with striped trousers, so familiar in certain regions at home. Our ship had cast anchor close under one of the cliffs, which rose suddenly from the sea for 900 feet. The passengers being all slung aboard, the ship proceeded towards the harbour of Reykjavik, reaching it next forenoon.

Although the island contains some vast snow-fields, Icelands has considerable tracts of low-lying land near the coast on which nearly all the habitations of the islanders are situated. We visited the only inland village—it is a matter of a few houses. Possibly the feature of so much flat land round the coast attracted the early Norwegian settlers when they fled from the dominion of their tyrannous overlord, Harald the Fair-Haired. It must have furnished an attractive contrast to the steep descents into the sea of their native land. Upon these flat patches some grass is grown for grazing purposes with some potatoes and cabbages. There appeared to be no other outdoor crops. The climate was probably warmer in the ninth and tenth centuries when the first settlers arrived than it is now. At any rate, Bright's party found definite deposits of wood in certain soils, whereas now in the entire island there is scarcely a " tree " more than a foot high. It is true that we saw some trees of middle height in Reykjavik itself, but they were in gardens and obviously carefully protected. On one of our journeys we had pointed out to us the local birch " forest," and on looking very hard we perceived that the other bank of the river on which we stood was covered with a growth resembling in the distance box myrtle, which we were assured represented the " forest " in question.

There are a fair number of cattle and sheep on the island. The principal industry is fishing. The fish are exported to all parts of the world, especially to England, Italy and Spain. The story of how Iceland abandoned Prohibition is of some interest. Spain would not take any fish unless Iceland took wine in return. The Icelanders at first stoically poured the wine away. After a time the folly of this course of action was more than their common sense would stand, and now wine is permissible merchandise. It says much for their strength of mind that in so poor a country, with so few amenities, they could for some years have refused to drink the wine they had earned, not only at the cost of work but of definite hardship.

A country which still shows active volcanoes—there was an eruption in the midst of the snow-fields last summer of which the flames could be seen in the capital—is of obvious interest to the geologist. It is recorded that " such was Mr. Bright's ardour in exploring the geological curiosities of the district that one day in the sulphur

mountains he ran a great hazard and suffered considerable pain from accidentally plunging one of his legs into the hot clay." His companion, Sir George Mackenzie, recorded that "from whatever spot the sulphur is removed, steam instantly escapes." It was from this circumstance that Bright ran himself into danger.

Nowhere more than in Iceland can geology and economics be more obviously related. There are hot springs, which, in addition to supplying a river of hot water, produce permanently warm swimming pools for the inhabitants, supply the local laundries with all the hot water they need, heat the earth sufficiently to bake bread in earth ovens, enable roses and carnations and the like to be grown under glass—they can be grown nowhere else on the island—and supply the houses in the capital with central heating. Not all the natural phenomena behave with this punctilious and satisfying regularity. The Gryla geyser, which we visited, a hot spring which spouts 30 feet, has been given a feminine name on account of its fickleness in performance. Apparently the greater geysers which Bright and his companions visited have disappeared in the course of the last hundred years.

In spite of the fantastic and impressive nature of the geological features of the country, Iceland is not blessed with what could be called mineral wealth. It is unlikely that Iceland will ever become an industrial country. Although it is at least as large as Ireland, its total population is only about 105,000, and the annual State revenue about three quarters of a million pounds.

It is from the anthropological aspect, however, that the interest of Iceland is greatest. Iceland is probably unique among the countries of the world for the completeness of its family records and the continuity of its literature. Written family records and a literature, largely historical but with an admixture of mythology, have survived for 1,000 years. With this has gone the preservation of the written form of the language, so that the old tales can still be read, chiefly as texts for schools. What interested me most in this respect was the fact that in a high proportion of Icelandic families there are records not only of births and deaths, but important events, including the illness of individuals, extending over 800 and sometimes 1,000 years. Probably the great isolation of the island, its freedom from internal wars and external aggression, enabled the literary tradition to be handed down from the early settlers and preserved.

Excerpts from local records inserted in the account of Iceland given by Bright's party show the conscientiousness with which the parish priest upheld the genealogical tradition. Not only do the parish records contain records of birth and death, but also yearly records of the individuals of many families annotated with their personal characteristics, including especially their intelligence and temperament. The possible importance of the existence of such records in such unexpected detail over so long a time can be easily recognised. In fact, Dr. Helgi Thomasson, Director of the Mental Hospital and Lecturer in Psychiatry in the University of Reykjavik, has collected, he tells me, the history of about 1,000 Icelandic families with special reference to the mental illnesses recorded among them. Naturally such records must be incomplete, but it seems likely that a considerable proportion of the major mental illnesses have been put on record. It is to be hoped that some day he may be able to publish these, not only for their own sake, but because of their relevance to present-day discussions on eugenics in this country. It is interesting, for example, to try to balance the contribution to the community by a famous artist against the cost of several insane relatives to the Exchequer in recent generations.

The sagas are, of course, from a literary point of view, the most important possession among the Icelandic traditional records. Their interest, as of all great literature, is essentially modern and human. One of the best, the story of Burnt Njal, contains in the first few chapters the story of a divorce, evidently on the grounds of impotence, an account of several domestic squabbles, and a piece of legal finesse in the form of instructions how to execute a summons upon an unwilling litigant.

Along with the preservation of the language and the literature has gone the preservation of the human stock itself. It was mainly Nordic to begin with, with a small admixture of Celtic supplied by the slaves whom the Norsemen brought with them. Fair hair seemed to us to dominate still among the inhabitants, as it appeared to do at the time when Bright visited the island. The distribution of the various blood groups, however, is different in Iceland from what it is in the rest of Europe. It is of some interest that when Dr. Thomasson investigated blood grouping among his insane patients, he found it to correspond with the distribution among the general population of Iceland.

As regards diseases, Bright's companion, Dr Holland, contributed a chapter to MacKenzie's book devoted to this subject in which he, naturally and inevitably, alluded to those conditions which were connected with the restrictions of their diet. He had noted that of every vegetable food there was the utmost scarcity, and that, in consequence,

scurvy was very common on the island. Leprosy at that time he was evidently inclined to attribute to similar causes, especially also to the mode of living of the inhabitants, which at that time was dirty in the extreme. However, the importation of fruit nowadays makes it less likely that scurvy will arise. The improvement in the standards of living and of variety in the diet also makes deficiency disease less likely. In the old days Holland describes how they used seafoil and the berried stocks of the juniper to combat the scurvy. We were informed that a high prevalence of rickets has been estimated by some authorities. It seems possible that diagnostic criteria may have been at fault. The children we saw looked singularly healthy, well built and well nourished. We saw none of those gross deformities which used to be so frequent, until the war at least, in the streets of Glasgow.

Lord Dufferin, who visited the island in 1856, also reported that scurvy was common. It seems that the prevalence may have been considerably lessened by the fondness of the inhabitants for the national dish known as " skier." It is a kind of sour milk said to be particularly rich in vitamin C. It resembles in appearance a kind of thick cream, and is served with milk and sugar. It is prepared with the familiar aid of the bacillus lacto-bulgaricos, and is therefore of similar composition to what Metchnikoff prescribed for longevity and to a well-known preparation in use in this country. Some of our party disliked its flavour and found it sour. I found it enjoyable provided there was a moderate addition of sugar. We certainly had many opportunities of sampling it on our few days' sojourn, as it was served on every possible occasion.

Of deficiency diseases, beri-beri has recently come into local prominence, partly as the result of Dr. Thomasson's investigation, whose attention was attracted by the case of a fisherman in the Westmann Islands, the small group of rocky islands off the south-west coast already referred to. Not only this man, but his three companions who lived under the same roof and on the same diet were found to show a clear picture of beri-beri.

The publication of this paper led to the discovery of a further 40 cases in the same group of islands. These Westmann Islands are said to derive their name from some Celts whom the Norsemen brought as slaves to Iceland and who succeeded in escaping their captors and taking to their boats. They pushed off at random and finally sailed or were driven to these rocky and stormy islands, where the sole means of sustenance is fishing and fowling. Their descendants have survived for seven or eight hundred years. I imagine that the " depressions " off the coast of Iceland must originate mainly round the Westmanns. Fog is frequent there, but the day we put into the harbour on our return journey the atmosphere was gloriously clear and when we landed the coast of Iceland, with Hecla in the middle distance, lay clearly before us. The scene recalled the west coast of Scotland, but for the even more dramatic changes of weather. When we left two hours later the wind had already changed to the south-east, clouds were blowing up, and we knew that another depression had arrived.

These Westmann Islands were found by Dr. Holland also to be of considerable medical interest at that time for a different reason. He recorded that for 20 years no child born on the island had survived more than two weeks. They had all died, most of them on about the seventh day, from what he described as tetanus neonatorum.

From the mainland a case of pellagra has recently been reported by Dr. Thomasson. As regards the chronic infectious diseases, there exists outside Reykjavik a sanatorium for the tubercular. We visited this, in error it must be confessed, as, owing to a misunderstanding based on the language difficulty, we thought we were to be taken to the local mental hospital, and found ourselves at the local sanatorium instead, on the afternoon or our arrival. Even the jester of the party found it a little difficult to explain this error. We gathered in the course of a very brief visit that tuberculosis is common in the usual forms, while of the 120 beds at the sanatorium 25 are devoted to children. The doctors are evidently trained in the modern practice of Denmark and Germany.

The only hospitals in existence in Bright's day appear to have been intended for lepers. Now there is a separate leper hospital on the outskirts of Reykjavik, where I understand there are about 30 patients.

The mental hospital is situated very pleasantly on the coast to the west of Reykjavik and is about 15 minutes in the bus from the centre of the town. The only other mental hospital I have seen situated practically on the sea is a small one on Lake Ontario, some distance outside Toronto. Neither there, nor at Reykjavik, does the easy access to the sea give rise to special anxiety with regard to suicidal attempts. It reminded me of a story of Adolf Meyer's of a medical student who had charge of a suicidal patient. One day the patient walked into the sea up to his neck with the obvious intention of drowning himself. Just as it appeared that the water was about to engulf him altogether the student called out from the shore, " Come back, come back, or I'll lose my job." This appeal is

said to have so touched the patient's heart that he returned to safety.

At Kleppur the hospital is in two sections, each holding about 100 patients, the newer for more recent admissions and the older one for the chronic patients. In the new building each ward contains with its side rooms about 25 patients. It is so arranged architecturally that all of them, both in the side rooms and in the ward, can be kept under observation by one nurse in each ward. This does not prevent a certain amount of subdivision by low, well-arranged partitions, which prevent the effect being simply that of a large, bare ward, and give the place a much more attractive appearance. The side rooms have no doors and yet provide a possibility of relative isolation for a proportion of the patients. The acute male ward has male attendants, but with a female nurse in charge. The nurses have all had a training in general nursing for four years before they are allowed to take up mental nursing. It is a great pity that things cannot be arranged in that way in this country. The head nurse, or matron, of the hospital is a woman with remarkable qualifications ; she is not only a trained nurse, but she has a training in social work and, in addition, has been taught laboratory technique. She was, in fact, working in the laboratory when we visited.

The laboratory itself is remarkably well equipped and has a very workmanlike appearance. In spite of the economy that has to be practised, which is partly responsible for the design of the wards which I have described, the laboratory is well supplied not only with electrical appliances but with current journals. In addition to the routine work in the laboratory, Dr. Thomasson carries out serological work, while a colleague is interested in brain oxidations. Dr. Thomasson's own particular interests have been in the vegetative nervous system and the blood electrolytes in the manic depressive psychoses. Out of 260 cases of the latter condition he has found 14 in which he believes there is a significant alteration in the calcium sodium ratio in the serum and an absloute increase in the calcium. With this goes an alteration in the relative activity of the sympathetic and the parasympathetic. This alteration is gauged by the Danielopolu reaction, which consists in the response of the pulse to the injection of atropin intravenously. Dr. Thomasson agrees that the Eppinger-Hess hypothesis of vago- and sympathetico-tonia is extremely dubious, but he believes that the response to atropin by the Danielopolu method does indictae something pointing to a disturbance in the vegetative nervous system. This disturbance he finds associated with the alterations mentioned in the blood electrolytes. Furthermore, on these findings he gives acetylcholine to restore the depressed parasympathetic where that condition appears to exist, and he has found in nine cases of recurrent manic excitement treated in this way that the attacks have been shorter than in the earlier attacks in the same patients. If this result be confirmed by further experience it will be of value not only therapeutically in controlling a small group of manic attacks, but it would also be of theoretical importance in enabling us to separate off from the general group of manic depressive disorders a small sub-group, delimitable by bio-chemical characteristics, a feat which has not hitherto proved possible, the biochemical findings in the psychoses being so far notoriously inconclusive. It would be of much interest to correlate the findings in such a group if it can be so distinguished, with the genetic relationships of the patients, to see whether this group is distinct from those cases of manic depressive disorder in which inheritance seems to be the dominating factor. It may be, however, since the group is small, that the cases fall in the normal curve of distribution. ?

We found that Dr. Thomasson's hospitality was in the same generous tradition that all travellers to Iceland have remarked, and over lunch he told us something of the teaching of psychiatry in Iceland. Medical students are there offered a three months' clinical clerkship, two of them at a time, in the mental hospital. All of them take advantage of this, although it is an optional course. Their duties appeared to be analogous to those of our clinicals. They had an opportunity not only of writing up cases, but of conducting them under supervision. As regards the general curriculum—it lasts five years in Iceland and a further year abroad, usually Denmark, but sometimes Germany, is required. Dr. Thomasson himself spent five years doing post-graduate work abroad. He has lately included in his duties lectures in psychopathology to the faculty of theology in the University.

These are already bearing fruit, and he has received spontaneous tributes to the effect of his lectures in altering the viewpoint of his theological hearers, an important matter if the theologians are to be kept abreast with modern views in the psycho-biological sciences. This is an example which might be followed with advantage in our own universities.

Limitations of accommodation lead to a considerable propotion of chronically insane remaining outside of hospital. We encountered several during our stay in Reykjavik. One of them, probably a schizophrenic feeble-minded person, came to see us off. He was dressed in an old

bowler hat with some gold braid on his coat. He came aboard, received a cigar from the captain, and departed, assuring us that he would look after the gangway. The captain's cigar was very strong and we did not see him again, but we learned from the captain that these patients can sometimes be a definite embarrassment. On his last trip one of these chronic mild dements was found sitting in his cabin. The captain tactfully asked for his ticket, and as he could not produce one he was put ashore. He made such vigorous attempts to get on the boat again that the police had to be summoned. They removed him, but, nothing daunted, he turned up in the pilot cutter and, when the pilot was being dropped, tried to clamber aboard. It was only with difficulty that he was restrained from joining the ship for the rest of the voyage. It is a desirable thing that the public should, from greater knowledge of mental illness, come to be more sympathetic towards it. It appears, however, that too much direct contact with less mild cases may cause the patience of the public to become strained.

The account of their travels given by Bright's party shows that they endured a certain amount of hardship. They thought nothing of walking 30 miles, the ponies, however, carrying the baggage. We found waiting for us a plentiful selection of cars, which made light of the heavy roads, all of which tended to come to an end 50 or 60 miles inland. After that it was a matter of traversing lava fields. Some of the roads are precipitous and full of hair-pin bends, and their general quality was such that we did not think the ordinary British car would be well equipped for standing up to them. In fact, the cars we saw were nearly all American. So also were the advertisements. A certain large motor-wagon was advertised prominently as being " a handsome brute." The Icelanders mainly speak English well, so doubtless they understood. The party saw two Austin cars, which are said to be the forerunners of more, as the Icelanders, who are very well disposed towards England, are anxious to see trade with this country increase.

But the person who did himself best in the way of transport was Lord Dufferin. When he arrived in 1856 he hired no fewer than 26 ponies to carry his baggage. Wherever he went the baggage train went on ahead to prepare a sumptuous spread. No traveller ever enjoyed himself more than Lord Dufferin appears to have done. The contrast between the exuberance of his book with the more subdued and careful account given by Bright and his companion probably marked not only a difference in temperament but also the amount of progress made in the country between the years 1810 and 1856. We felt when we read Dufferin's " Letters from High Latitudes " that there were disadvantages in being taken about in cars, and that, had we been able to hire 26 ponies, we should certainly have preferred them.

We stayed one night at the hotel inland, apparently the only hotel outside Reykjavik. The food was good, but the bedrooms were amusingly confined. There were not beds, but bunks arranged as in a ship, one above the other, and the washing arrangements were exactly similar to those found in a ship's cabin. We stayed one night there. In the evening we though we should like to go for a walk, but the prospect was so uninviting that we abandoned it and spent the rest of the evening listening to our driver singing Icelandic songs. Bright's party did not think much of Icelandic music, but, judging from some of the gramophone records we heard, and a very good specimen of which we brought back with us, there has been an improvement of recent years.

A journey to Iceland is recommended mainly to those who can stomach the sea. On our return journey from Reykjavik we ran into a gale which lasted four days, the wind being first on the starboard and then on the port bow. For 36 hours the steamer did only 5 or 6 knots an hour. Possibly it was considered inadvisable to attempt to push the craft faster through the water lest the propellor should come off. We received an S.O.S. from a trawler which had met with this mishap, and our craft was probably older than most trawlers now sailing. A trawler hand returning to Scotland was a fellow passenger, and when asked about the possibilities of spending a holiday in a trawler, assured us that they were much safer than s.s. X. We were inclined to believe him when the ship suddenly went off at right angles to her course, the steering gear having broken down. Fortunately, by that time the wind had fallen, which it did with dramatic suddenness in the space of a few seconds while we were about 20 miles off the Orkneys. Before that we had many illustrations, as my wife pointed out, of the aptness of the old saying, " Shiver my timbers ! " when the propellor came out of the water and seemed to threaten to take the plates off the frame.

However, the Icelanders themselves now possess a modern fleet of steamers of which they are rightly very proud. Even these in the winter time are sometimes obliged to take seven days for a journey normally done in four, the excess being largely spent hove-to.

Sir George McKenzie said of Mr. Bright that he " would ever retain a grateful remembrance of

all the cheerful ready exertions he always displayed, and the cheerful good humour with which he submitted to the cross accidents which sometimes befell us."

Although our trip in no respect could bear the slightest comparison with Bright's, it should be said that a journey to Iceland, even in these days, needs pleasant companionship as much as most journeys. We were fortunate in that respect. Indeed, the high spirits of one member of the party were so infectious that they elicited from the guide on saying farewell that our party were "a nice lot of silly people," which we hoped contained a slight linguistic error.

Correspondence

The North Middlesex County Hospital

To the Editor of the GAZETTE

SIR,—If any justification is required for describing yet another hospital in the pages of this *Gazette* it is the fact that this particular institution forms part of a system of hospitals very near to London, and yet apparently but little known. Probably every Guy's man knows of the L.C.C. system of hospitals, though to many they may be thought of merely as places where, if you have sufficient telephonic ability combined with an aptitude for filling innumerable forms, you can eventually sent a patient that you don't want to take in yourself. Be that as it may, but it seems that most people have never even heard of the Middlesex County Council hospitals. The North Middlesex County Hospital, therefore, let me say at once, is one of these hospitals.

Situated in the north of London, it serves a large and rapidly growing area, and, although the hospital already has approximately 1,100 beds, they are to be increased by about 250 in the near future. The division of these beds is interesting. Approximately 500 of them are reserved for acute medical and surgical cases, thus forming a block comparable to a teaching hospital in many respects. Less urgent cases go to another block called "The Annexe." Here, for example, are the chronic heart failures, arthritics, cases for investigation and a number of inoperable carcinomata. There are separate wards for pulmonary tuberculosis. Finally, there are the "Infirm Wards," which are very much what the name suggests and are filled with bedridden and senile cases unlikely to benefit from any treatment whatsoever. In addition there is a separate maternity block and wards for mental illnesses, though certified cases are removed to special hospitals.

The staffing of the hospital calls for comment. The entire staff is resident and private practice is not allowed. The only exception is the visiting specialists in Eye; Ear, Nose and Throat; and Dental work. The surgeons, physicians and medical officers are all on a full-time basis. There are no six-monthly house appointments. Practically every member of the staff has, or is reading for, higher qualifications, and there is no doubt that the efficiency of the medical and surgical work is on a very high plane.

The inside working of this great institution has many points of interest. Firstly, the admission of patients. The admitting of all cases is done through one medical officer, who during the day is constantly in the receiving ward and at night can easily be put through to outside doctors, as every 'phone in the hospital is on the National system. The result of this method can best be illustrated by comparing it with the older one we are so familiar with. Consider for a moment the following conversations over the telephone :—

Doctor A (wishing to get a case into a voluntary hospital)—Hello. I want to have a case admitted to hospital.

Porter, V.H.—Hold the line; I'll get the Take-In H.P.

(Ten minutes elapse. A dyspnœic H.P. appears. He has come from the other end of the hospital at speed, and he looks like it.)

Take-In H.P.—Hello.

Dr. A repeats he has a case, etc.

Take-in H.P. (who has one empty bed at his disposal)—Tell me the complete history, please doctor.

(A long account follows.)

Take-In H.P.—As we are very short of beds I cannot promise, but if you will send up the case I'll see it, and if it is suitable I'll admit it. Good-bye.

(Dr. A then has to get his own ambulance and wonders what will happen to his patient.)

Now a similar incident at the North Middlesex County Hospital :—

Doctor A (wishing to get a case into the N.M.C.H.)—Hello. I want to have a case admitted to hospital.

Porter, N.M.C.H.—Hold the line; I'll put you through to the admitting officer.

(30 seconds elapse.)

A.O.—Hello!

Dr. A—I want to have a case admitted, etc.

A.O. (who has unlimited beds at his disposal)—Very well, I'll send our ambulance round for her at once. Good-bye.

Need one say more?

The medical staff of the hospital are treated with considerable respect, and in their daily work they are not required to do anything that an unqualified person can do. The porters, of whom there are many, do all the fetching and carrying, even to the opening of gas cylinders and pushing anæsthetic machines from induction room to theatre. If one desires to do an operation, all one has to do is to ring the ward and state a time, and then one waits until the 'phone rings again and a voice says, "Your case is in the theatre, Sir." It is also worth noting that the nursing staff in the theatre is large, but what is more important is that it is the same number whether one operated in the morning or the middle of the night.

I was interested to note that practically the only anæsthetic used was gas, oxygen and ether, and no pre-operative atropine is given. During six weeks in the hospital I never saw one post-anæsthetic "chest," and I am told that they are exceptionally rare. From personal experience I was at no time worried by excessive mucus when giving anæsthetics.

Such is a brief account of the activities of a very large institution, and I have thought them worth recording. To go into any detail would fill many pages and, perhaps, bore you.

Yours, etc.,

13, Rondu Road, N. M. J.
Cricklewood, N.W.2.

"Assistant Anæsthetist"

To the Editor of the GAZETTE

SIR,—Your remarks in "Passim" of your last issue, about the abolition of the post of Assistant Anæsthetist to the Hospital and the need for additional Staff Anæsthetists, are based upon a misunderstanding.

When the post of Assistant Anæsthetist was abolished a new appointment, that of Demonstrator of Anæsthetics, was created. It was merely a change of title. The posts of Resident and Non-Resident Anæsthetists were created at the same time.

Yours, etc.,

FRANCIS E. SHIPWAY.

55, York Terrace,
Regent's Park, N.W.1.

The Trees in the Park

To the Editor of the GAZETTE

SIR,—Far be it from me to criticise in any way your comments in "Passim" on the cutting down of two trees in the Park; but in the interests of historical accuracy I think I must refer to your cry, "Would that Bright and Addison could see the harm that is being done." Bright and Addison never saw either the trees or the Park. Bright died in 1843 and Addison in 1860. Until 1861 the site now called the Park was almost entirely covered by the old Medical School, the Lunatics' House and airing ground, and a block of cottage property on both sides of a street called Little Queen Street. Queen Street has now disappeared, but the entrance to it was where Doyle's Yard is now, close to the south end of the Medical School.

In 1861 the Governors of the Hospital decided to close the Lunatics' House, and the lunatics' airing ground, a paved space surrounded by a wall, was thrown open, and the cottage property on both sides of Little Queen Street was pulled down. The two plots united formed an area of a little above an acre, and they were then laid out with paths and lawns. The plane trees were planted about this time, being little more than saplings, and were brought from the Hospital Estates at Long Sutton, in Lincolnshire. The rings of the tree recently cut down have been counted and show that it was about 80 years old.

When I came to Guy's 42 years ago the trees were about half their present height, girth and spread.

Yours, etc.,

HERBERT L. EASON.

Guy's Hospital, S.E.1.

Reviews

A Handbook of Gynæcology. By BETHEL SOLOMONS, B.A., M.D., F.C.O.C., late Master, Rotunda Hospital, Dublin. Published by Messrs. Bailliere, Tindall & Cox. *Price* 15*s.*

THE original edition of this book was written 15 years ago, and was primarily intended as a handbook to guide the student and help the general practitioner.

The new edition, though larger, has retained its original character, the presence of modern views not necessarily excluding the ideas of the older gynæcologists.

Each chapter has been revised, and many new illustrations have been inserted which are a definite improvement; the section on hormone therapy, being based on the author's personal

experiences with the various proprietary products on the market, is a helpful guide in a very difficult field.

The revised chapter on radium and X-ray therapy is clear, concise, and a great help to those who are about to take their final examinations.

The Chelsea Babies' Club Recipes for Food and Conduct. By HAROLD WALLER, N. LANGDON LLOYD, JOHN GIBBONS, C. GROSVENOR MILLIS. Published by the Babies' Club, Stanley Cottage, 35, Danvers Street, Chelsea. *Price* 2*s.* 6*d.*

TOWARDS the end of his training and shortly before his Midwifery examination the harassed medical student is often to be heard badgering both his friends and his teachers for information on baby-feeding. The reply is usually evasive, to say the least: "Oh, you can only really learn by experience, but for the examiners you find out the amount of fluid necessary, and so on, and you need not worry as a house officer, because Sister knows!" One has often wondered how the young practitioner deals with the many practical questions about infant management from equally young mothers.

This book has been written by the medical officers of a flourishing clinic, and gives detailed instructions on management with a voice of authority. Starting with breast-feeding, it stresses the importance of the act of suckling in starting and maintaining the supply of milk. The instruction of the mother is carefully set forth. Difficulties are pointed out and methods of avoiding them given.

Next the important and difficult business of weaning is tackled and a sound scheme is set out, giving suggested additions to the diet at different times. Then follow specimen seven-day diets for different stages of growth.

Artificial feeding is carefully dealt with under a warning against its use before supplemented breast feeding has been given a prolonged trial.

Vitamins, teeth and clothing all receive very adequate treatment.

Altogether this is an excellent little book, and while the authors themselves are the first to admit that baby-care cannot be acquired from books, this one certainly provides a sound and practical scheme which can easily be modified to suit individual needs.

Sport

Rugby

Guy's v. London University

ON Wednesday, November 14th, Guy's visited Motspur Park and suffered another reverse when London University were successful by 2 placed goals, a penalty goal and 2 tries (19 points) to nil.

Owing to calls for county games, Guy's were compelled to field several reserves, and the services of Giesen, Alexander and Wright were missed badly.

The University thoroughly deserved their success, as soon after the start they lost the services of Chandler, one of their centres, who had to retire with a dislocated ankle. In spite of the fact that Offord was taken out of the pack to complete their back division, the University forwards more than held their own, and three of the tries scored were the result of their efforts.

In the first half the home team pressed continually, but their three-quarters could make little impression against the Hospital defence. Twenty minutes had elapsed before London opened the score and Wesley landed a penalty goal.

For a time Guy's improved and tried several times to break through without success. Following one of these attacks the University forwards dribbled right from their own line, and Allen scored under the posts for Wesley to add the goal points.

After the interval London again pressed and, following an excellent bout of passing among the backs, Smith, their right wing, crossed in the corner for an unconverted try. A little later a similar movement ended in Wesley going over for a try, which he converted with a great kick from near the touch-line.

Guy's made strenuous efforts to reduce the arrears, but excellent tackling by the University centres held up several three-quarter movements.

Near the end, Allen completed the scoring by registering his second try, but the kick at goal failed.

Team.—E. C. Sharp; R. M. de Gregory, G. F. Rees, I. McD. Stewart, P. H. Birks; J. van A. Steytler, K. A. Stanyon-Jaques; C. S. Darke, P. K. Hopkins, H. H. Crabb, I. G. Robin, C. F. Ziervogel, A. R. Clarke, T. A. Hale-Monro, P. Fletcher.

Guy's v. Rosslyn Park

AT Richmond on Saturday, November 17th, Rosslyn Park overcame the Hospital by 2 placed goals and 3 tries (19 points) to nil.

Both sides were strongly represented, but whereas the Park were without their captain, A. C. Lusty, Guy's were short of Robin, Kark and Giesen, the latter sustaining another injury to his shoulder when playing for Kent earlier in the week.

Rosslyn Park have a very good all-round side, and their pack must be one of the best in the Metropolis. However, the Hospital forwards put up a magnificent fight, and the form in this game was a marked improvement on that shown hitherto.

The Park were admirably served at half-back, where Sturtridge and Hudson had a perfect understanding. On the other hand, Steytler played another good game for Guy's, and his tackling of Sturtridge was one of the features of the match.

The first half was very even, each side attacking in turn, and early on a good movement between Stewart and de Gregory nearly led to a score, but Unwin caught de Gregory near the line and threw him into touch.

Soon after, a sharp cut through the centre by Steytler and Alexander carried play to the Park's '25, but Button relieved with a good kick which found touch near midfield.

The Park retaliated when their forwards dribbled the ball to within a yard or two of the line; several scrums followed, and a breakaway by Sturtridge led to their first score. After weaving his way through the centre, Sturtridge threw out a pass to Gladstone, who sent Cooper over near the posts for Woodhouse to add the goal points.

After the interval, Evans led another forward rush, which Gordon finished off with an unconverted try. Unfortunately, Alexander was hurt in going down to the ball, but, although he received a nasty blow on the head, gallantly carried on

Twice Wright threw Haddon-Cave into touch when near the corner flag, after which Guy's attacked for several minutes, and only some excellent tackling prevented them from scoring. On one occasion Stanyon-Jaques broke away on the blind side and raced up to the full-back, but he had no support and a good chance went astray.

Guy's rearranged their back division by bringing Wright into the centre, but, although there was more thrust, they could not prevent Hudson from creating a perfect opening, which enabled Sturtridge to send Unwin over in the corner.

Encouraged by this success the Park played with greater confidence, and another try by a forward came when Gillan was up to take a pass from Sturtridge, Instone adding the goal points.

Near the end the Hudson-Sturtridge combination broke through again and, after the latter had made a lot of ground, he flung a long pass to Gladstone, who scored a well-deserved try.

Team.—E. C. Sharp; R. M. de Gregory, I. McD. Stewart, P. C. Alexander, C. G. Wright; J. van A. Steytler, K. A. Stanyon-Jaques; A. G. Heberlein, C. S. Darke, H. H. Crabb, C. F. Ziervogel, E. R. Davies, T. A. Hale-Monro, P. Fletcher, R. O. Yerbury.

Guy's v. Old Leysians

AT Honor Oak Park on Saturday, November 24th, Guy's were unexpectedly defeated by the Old Leysians, who were successful by 2 placed goals and a try (13 points) to a placed goal and a try (8 points).

The Old Boys, like Guy's, had suffered rather a bad patch this season, and their success must have been a welcome tonic. A thick mist hung about the ground most of the day and at times it was extremely difficult to see the whole length of the field; however, those who were present enjoyed a very even game. The visitors maintained a fast pace from the commencement, and would never allow the Hospital to settle down; their marking and tackling being most effective.

On the run of the game Guy's appeared to be the more polished side, and were a trifle unlucky to lose; several scoring chances came their way, but their inability to finish off some excellent movements cost them the match.

Although the Old Boys commenced the game with a man short, they were the first to score, when Sykes made a brilliant run before touching down for a try, which Brown converted.

Within a few moments the Hospital drew level as the result of a magnificent movement along the whole of the back division, which ended in Wright crossing for a try behind the posts, but Alexander missed an easy kick at goal.

The visitors completed their team ten minutes after the start, but Guy's were the more impressive side and were continually on the offensive. However, they did everything but score, and half-time arrived with the Old Leysians leading by the narrow margin of two points.

Soon after the interval it was almost impossible to see across the field, but play continued to be fast and open. Splendid kicking by Sykes gained valuable ground, and a loose movement among the forwards led to the Old Boys increasing their lead

when McLean dived over for a try, which Brown converted.

After this reverse the Hospital played with greater spirit and dash. A great raid by the forwards carried play to the visitors' '25 and, following a line-out, the ball was sent to Stewart, who raced through to score a good try, which Alexander converted.

Judging by their form in the last few minutes it appeared that Guy's would snatch a victory after all, but, although they attacked desperately, they could not pierce a strong defence.

Just on time the Old Boys made their success certain when Sykes made a fine run on the left wing, and registered an unconverted try in the corner.

Team.—E. C. Sharp; C. G. Wright, P. C. Alexander, I. McD. Stewart, R. M. de Gregory; J. van A. Steytler, K. A. Stanyon-Jaques; H. H. Crabb, A. G. Heberlein, C. S. Darke, I. G. Robin (Capt.), E. R. Davies, R. O. Yerbury, T. A. Hale-Monro, C. F. Ziervogel.

Hockey

Guy's v. London Hospital

THE fog, which in London on Saturday the 24th tended to be of the yellower and more unpleasant variety, was at Osterley a mere mist, which did not interfere with play. It had the result, however, of causing the London Hospital to field only ten men, thus making what should have been an even game into rather a one-sided match.

Guy's attacked repeatedly during the first half, and it was only poor play on the part of the inside forwards which prevented Guy's from establishing a considerable lead. Shortly before half-time Franklin scored with a good shot, when the ball was only partially cleared from a melée in the circle, and Guy's crossed over with a lead of one goal.

Shortly after half-time Elliott went through and added a second goal, and Richmond added a third with a hard, well-placed shot. A fourth goal came near the end of the game, when Porter managed to push the ball past the goalkeeper.

The defence was always very sound, and Brown, in goal, played a good game, tackling well and kicking accurately. The forwards, however, were not well together, and it was largely the missed passes and poor shooting which prevented a much more convincing victory.

Result.—Guy's, 4; London Hospital, 0.

Team.—H. V. Brown; R. G. Archer, A. C. Greene; C. F. Wright, A. G. Richmond (Capt.), G. E. Clarke; W. J. C. Dickson, J. E. Elliott, K. D. R. Porter, E. B. Rowe, J. B. Franklin.

Guy's v. R.N.C., Greenwich

ON Wednesday, November 28th, Guy's beat the Royal Naval College, Greenwich, by 1 goal to nil, but this did not represent the true run of the play, for, except for a short period towards the end of the first half, Guy's were on the offensive.

After about ten minutes' play C. A. Clarke scored with a good shot from the right wing. Guy's continued to press for some time, but towards the end of the first half the Naval College got more of the ball and play became more confined to the Hospital half. The opposing forwards, however, did not prove a dangerous combination, and some good tackling by Archer and Greene at back kept them from scoring.

The second half saw Guy's forwards once more with a large share of the ball, and, although they did not add to the score, they had the doubtful satisfaction of netting the ball four times, each of which was disallowed.

Result.—Guy's, 1; R.N.C., 0.

Team.—W. H. Clarke; R. G. Archer, A. C. Greene; A. S. Bookless, A. G. Richmond (Capt.), G. E. Clarke; C. A. Clarke, J. E. Elliott, J. J. M. C. Jenkins, E. B. Rowe, J. B. Franklin.

Hospital Information, etc.

Change of Address

D. M. Hodgkin, 15, Middle Way, Golders Green, N.W.11

Dr. John Fawcett, 10, Chester Terrace, Regents Park, N.W.1

Papers by Guy's Men

T. Izod Bennett. Causation and Treatment of Oedema. *Brit. Med. Jour.*, 1934, ii, 929.

EDS. { D. P. K. / P. W. C.

GUY'S HOSPITAL GAZETTE

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PASSIM

IT is not often that we go to press at so opportune a time for wishing everybody a "Very Merry Christmas." We do not pretend to vie with the *Tatler* and *Punch* in the art of producing a "Christmas Number," but we have tried to fill these pages with matter less medical, and therefore, perhaps, more readable, than is our usual custom.

Christmas at the Hospital is not nearly such a drab experience as many outsiders may imagine, and although we all accept the solicitations of our friends for our misfortune in being, as it were, confined to barracks, many of us are rather glad of an excuse for remaining here. The efforts of sisters, nurses and ward clerks have been as ambitious as ever this year, and the wards have assumed their unaccustomed aspect of festivity and brilliant colours, so that we feel that on Christmas Day even the most chronic dyspeptic will be encouraged to forget the duodenal ulcer gnawing at his vitals and may be induced to partake of just a little Christmas fare. The College dining-room, too, has been transformed so that it now reminds us of the gilded dining halls we conjured up before our eyes when we read our fairy books. It is impossible to describe the variety of decorations which Miss Robins has hung from its walls and rafters, but perhaps we might point out that the holly has not been secured for the purpose of destroying the many balloons which hang from the electric light brackets.

The "Nigger" practices have been held almost every night for the last fortnight, and if enough Dutch courage can be forced upon them when the occasion arrives, we hope that at least their voices will rise above the sounds of the big drum. At the moment the "Niggers" are racking their brains for conundrums to ask Massa Johnson, whose taste this year is very fastidious.

No Christmas at Guy's would be complete without the Sisters' Dance, which was held on December 19th, and the Nurses' Dance, which has yet to come on December 28th. The nurses will all be in fancy dress this year, and we are looking forward to seeing the wonderful costumes which their originality has devised. We feel that it would add to the "make-believe" if in addition all, both nurses and the men, were compelled to wear masks.

Immediately after Christmas the Residents' thoughts will turn to the Play and the Ball. The Play, as usual, will be held during the first half of February, but we hear that the Ball will be a little later in the year than usual. There was a suggestion, we believe, that this year it should be abandoned. We would like to record our thankfulness that this will not be the case, and we hope that the occasion will be better supported than ever.

THE recent success of the Hospital in beating both the Army and Coventry would seem to mark the end of a run of bad luck which has followed the side since the beginning of the season. It is particularly pleasing that this return to form should be occurring just now, as from Christmas on the main objective is always success in the Hospitals' Cup. This year we meet Bart.'s in the first round on February 7th, In the same half of the draw are St. Mary's, the holders of the Cup. It would therefore seem that, whoever wins the Cup, the best matches will be over early.

The tour to Portugal arranged by the United Hospitals' Rugby Football Club has unfortunately had to be abandoned, as it came under the Rugby Union's ban on all Continental tours this year. No other reason was given for its cancellation, and it is a pity that a tour which promised so well

had to be given up at such short notice. Fixtures had been arranged against Portugal, Oporto and the English residents in Portugal. Seven of the Hospital side had been invited to make the trip. During their stay they were to have been billeted by the English there, and they were themselves to defray 25 per cent. of the fare. It is hard to see why the Rugby Union saw fit to stop the tour so peremptorily.

WE wish to congratulate Dr. E. R. Boland on his appointment as Assistant Physician to the Hospital. Dr. Boland came to the Hospital at 17 from Stonyhurst in May, 1915. During the period 1916-18 he was in the Army and, on account of wounds, only resumed his medical studies in 1919. Qualifying in 1923, he was successively A.H.S. to Mr. Slesinger and H.P. to Dr. French and Dr. Marshall. After two years as Medical Registrar he has since 1927 been Clinical Tutor with charge of the Preliminary Clinical Period, and has been associated with Dr. Marshall in the Department for Tuberculosis. Such is the bare account of Dr. Boland's career at the Hospital, to which is added this very popular appointment. We understand he will continue to take the Pre-Clinical class until October, 1935.

WE wish also to congratulate the following on their appointment as Clinicals :—

Mr. G. T. Balean.
Mr. R. W. Cope.
Mr. J. R. Forbes.
Mr. J. E. Giesen.
Mr. M. R. Kark.
Mr. W. N. Mann.

John Keats

A Paper read before the Guy's Hospital Dental Society on Tuesday, 18th December, 1934, by F. N. Doubleday, Esq.

IT is the custom of those who admire a poet to claim for him a place next to Shakespeare. During the last few years it has been urged that such a place belongs by right to Keats. The authority of the Oxford School of Poetry may be claimed in this sense. Matthew Arnold, Bridges, Middleton Murray, Garrod, de Selincourt, Bradley and Ridley may all be claimed as expert evidence of the high value of his work. Keats was a fellow student in this hospital. He walked its wards, strolled in the Colonnade, and lived in St. Thomas's Street. His fame has not received just recognition at Guy's. It is but fitting that the Dental Society, representative of the oldest of the Special Departments of the hospital, should voice his fame.

John Keats was a poor lad, educated in a private school; the only other place of education which he attended was this hospital. His father is believed to have come from the West of England. The first authentic knowledge which we have of him is that as a youth of twenty he was employed as head ostler in the livery stable kept by a Mr. John Jennings, in Finsbury. Next, that he married his master's daughter, Frances, the wedding taking place at St. George's, Hanover Square. The couple lived at first at the sign of the Swan and Hoop on Finsbury Pavement, facing Lower Moorfields, which at that time was open to the country. No. 85 Moorgate, now occupies the site. John Keats, their eldest son, was born on 29th or 31st October, 1795. He was a premature birth, which may account for his small stature and indifferent health. He was baptised in St. Botolph's, Bishopsgate, by the incumbent, Dr. Conybeare, a direct ancestor of our present Medical Sub-Dean. Three other brothers and a sister were born later. As a boy, John Keats was lively and a great fighter with his fists. In 1803 he was sent to a school kept by Mr. John Clarke, at Enfield. It was a pleasant 17th-century house, standing in a delightful garden. Parts of its facade are still preserved at South Kensington. At school he fully maintained his reputation as a pugilist but he was also a great worker. A contemporary relates : " He was at work before the first school hour began, and that was at seven o'clock ; almost all the intervening times of recreation were so devoted ; and during the afternoon holidays, when all were at play, he would be in the school almost the only one at his Latin or French translation ; and so unconscious and regardless was he of the consequences of so close and persevering an application that he would never have taken the necessary exercise had he not been sometimes driven out for the purpose by one of the masters." As the pupil who did most voluntary work he gained two silver medals in succession and also a book prize. He was devoted to his mother, and on one occasion when she was ill he was found mounting guard at her bedroom door with a drawn sabre, threatening anyone who dared enter.

On April 15th, 1804, as his father was riding along City Road at one o'clock in the morning, his horse reared opposite the Chapel which John Wesley built in that street; he was thrown, and sustained a fractured skull from which he died in a few hours. A year later the widow married again; the marriage was unhappy and the parties soon separated. Keats' mother developed phthisis, from which she died on February 10th, 1810. The children were then left to make their way as best they could. During his mother's last illness Keats showed the utmost concern. He sat up whole nights in a great chair, would allow no one else to give her medicine, he would cook food for her, and read novels when she was sufficiently at ease to enjoy them. After her death he gave way to paroxysms of grief, and would hide away in a nook under his schoolmaster's desk. When Keats' grandfather, Jennings, died in 1805, he left over £13,000, part of which was assigned to the Keats children. Upon the death of the grandmother, in 1811, the funds passed into the hands of a very unsympathetic trustee. The money became involved in a lawsuit and difficulties arose for all the family. However, from various sources Keats had enough money to live independently for the brief remainder of his life.

At the end of the summer term of 1811 he left school and became an apprentice to the school doctor, Thomas Hammond, of Edmonton. A hundred years ago medical students still followed a course of apprenticeship, only the final year or eighteen months was spent in a hospital. Keats entered Guy's for the completion of his course on October 1st, 1815, and was appointed dresser to Mr. Lucas, who was not among the successful Guy's men. Fortunately, Sir Astley Cooper interested himself in Keats and asked his nephew, George Cooper, to take notice of him. Keats at first had rooms at 8, Dean Street; the street has been partly built over by the railway, but its remains, renamed Stainer Street, are still to be found to the east of the hospital gates. Describing it in a letter, Keats says: "Although the Borough is a beastly place in dirt, turnings and windings, yet No. 8 Dean Street, is not difficult to find; and if you would run the gauntlet over London Bridge, take the first turning to the right, and, moreover, knock at my door, which is nearly opposite a meeting, you would do me a charity, which, as St. Paul saith, is the father of all virtues." The depressing effect of the Borough upon Keats is also shown in one of his early sonnets :—

O Solitude! if I must with thee dwell,
Let it not be among the jumbled heap
Of murky buildings; climb with me the steep—
Nature's observatory—whence the dell,
Its flowery slopes, its river's crystal swell,
May seem a span; let me thy vigils keep
'Mongst boughs pavillin'd, where the deer's swift leap
Startles the wild bee from the foxglove bell.
But though I'll gladly trace these scenes with thee,
Yet the sweet converse of an innocent mind,
Whose words are images of thoughts refin'd,
Is my soul's pleasure; and it sure must be
Almost the highest bliss of human-kind,
When to thy haunts two kindred spirits flee.

The thought of this Sonnet follows some lines of Milton in "Paradise Lost." This was the first poem of Keats to appear in print, and was published on May 5th, 1816. Keats soon asked permission to join George Cooper and two other students, Mackenneth and Stephens, in rooms in St. Thomas's Street, in the house of a woman named Mitchell. He read omnivorously, not only medical subjects but Spencer, Milton and Wordsworth. He was always reading in the window or peering into space, so that the window seat was spoken of as Keats' place. In person he was short, 5 feet 2 inches in height, and had auburn hair. In the summer of 1816 he crossed London Bridge and went to live near the Mansion House in the Poultry, over a passage leading to the Queen's Head Tavern. A sonnet written at this time, upon the occasion of his brother Tom's birthday, gives a picture of the brothers in their lodgings. It is in the Shakespearean form; it will be noticed that the concluding couplet contains that premonition of early death which recurs so constantly in Keats' verse :—

TO MY BROTHERS

Small, busy flames play through the fresh-laid coals,
And their faint cracklings o'er our silence creep
Like whispers of the household gods that keep
A gentle empire o'er fraternal souls,
And while, for rhymes, I search around the poles,
Your eyes are fix'd, as in poetic sleep,
Upon the lore so voluble and deep,
That aye at fall of night our care condoles.
This is your birthday, Tom, and I rejoice
That thus it passes smoothly, quietly.
Many such eves of gently whisp'ring noise
May we together pass, and calmly try
What are this world's true joys—ere the great voice,
From its fair face, shall bid our spirits fly.

It must not, however, be thought that his life was entirely one of depression. One day Stephens found this jingle scribbled by Keats upon his chemistry syllabus :—

Give me women, wine and snuff,
Until I cry out, "Hold I enough."
You may do so, *sans* objection,
Until the day of resurrection.

During his school days Cowden Clarke had lent Keats copies of a paper termed the *Examiner*, edited by the reformer Leigh Hunt. This led to

Charles Cowden Clarke, "Recollections of Writers," 1878.

an admiration and, finally, an introduction to Hunt, with whom Keats became intimate. He visited at Hunt's house in the Vale of Health on Hampstead Heath, and used to walk back to hospital late at night. Keats was always a good walker. While still apprenticed to Mr. Hammond he sometimes walked from Edmonton, twelve miles, to Covent Garden Theatre to see the famous players of his day: Mrs. Siddons, John Kemble, Edmund Keen, and others, and then walked twelve miles home again at night—twenty-four miles after a day's work. On one of his walks back from Hampstead he composed these lines :—

> Keen, fitful gusts are whisp'ring here and there
> Among the bushes half leafless, and dry;
> The stars look very cold about the sky,
> And I have many miles on foot to fare.
> Yet feel I little of the cool bleak air,
> Or of the dead leaves rustling drearily,
> Or of those silver lamps that burn on high,
> Or of the distance from home's pleasant lair;
> For I am brimful of the friendliness
> That in a little cottage I have found
> Of fair-hair'd Milton's eloquent distress,
> And all his love for gentle Lycid drown'd;
> Of lovely Laura in her light green dress,
> And faithful Petrarch gloriously crown'd.

Through his visits to Hunt he became acquainted with Charles Lamb, William Wordsworth, Haydon the painter, and many other leaders of intellect of that day. Haydon borrowed money from Keats and put him in great difficulty; he would have done well to remember the advice of his great master, Shakespeare :—

> Neither a lender nor a borrower be.
> For loan oft loses both itself and friend
> And borrowing dulls the edge of husbandry.

In a letter Keats records a meeting with Coleridge, the poet, as follows: "Last Sunday I took a walk towards Highgate, and in the lane that winds by the side of Lord Mansfield's park I met Mr. Green, our demonstrator at Guy's, in conversation with Coleridge. I joined them, after inquiring by a look whether it would be agreeable; I walked with him at his alderman-after-dinner pace for near two miles I suppose. In these two miles he broached a thousand things—let me see if I can give you a list: Nightingales, Poetry—on poetical sensations, Metaphysics, Different genera and species of dreams, Nightmare, A dream accompanied with a sense of touch, a dream related, First and second consciousness, Monsters, The Kraken mermaids (Southey believes in them), Southey's belief too much diluted, A ghost story, Good-morning. I heard his voice as he came towards me; I heard it as he moved away; I had heard it all the interval, if it may be called so. He was civil enough to ask me to call on him at Highgate." On July 26th, 1816, Keats went up for his L.S.A. and, rather to the surprise of his friends, successfully passed. From then on he decided to abandon surgery and to devote his life to poetry. His note-book shows how carefully his lectures had been attended; he told a friend: "My last operation was the opening of a man's temporal artery. I did it with the utmost nicety, but, reflecting on what passed through my mind at the time, my dexterity seemed a miracle, and I never took up the lancet again."

While still a student at Guy's, among other poems he had written his first published work, the sonnet, "To Solitude," and also that upon "Chapman's Homer," which has since become among the most famous of his compositions and was composed during a walk from Clerkenwell to the Borough. During the winter of 1816-17 he wrote two poems which are admirably suited for reading aloud as an introduction to Keats—they are: "I stood tiptoe upon a little hill" and "Sleep and Poetry." They are both full of delightful pictures of country life and of the sky and clouds. Those who have listened to the crickets chirping in the surgical wards on a hot summer night will recognise this picture from the former poem :—

> The breezes were ethereal and pure,
> And crept through half-closed lattices to cure
> The languid sick; it cool'd their fever'd sleep,
> And soothed them into slumbers full and deep.
> Soon they awoke clear-eyed; nor burnt with thirsting
> Nor with hot fingers, nor with temples bursting,
> And springing up, they met the wond'ring sight
> Of their dear friends, nigh foolish with delight.

Keats also began to meditate upon a longer poem. In the course of a letter he says: "I may be asked, 'Why endeavour after a long poem?' to which I should answer, 'Do not the lovers of poetry like to have a little region to wander in, where they may pick and choose, and in which the images are so numerous that many are forgotten and found new in a second reading which may be food for a week's stroll in the summer.'" The subject he selected for this poem was the Greek myth that Selene, the moon goddess, descended at night to kiss her lover, the shepherd prince Endymion. He wrote the last book at Burford Bridge, in surroundings familiar to many of you. In a letter he says: "I like this place very much. There is a hill and dale, and a little river. I went up Boxhill this evening after the moon . . . came down and wrote some lines." The poem is contained in four books, each of them consisting of upwards of a thousand lines. The verses previously named and others were

Letters, H.M.B. Ed., Vol. I.

issued as Keats' first published book in 1817. It provoked a variety of comments, and one of particular savagery. In those days Blackwoods was a powerful literary organ. Its editor was opposed to the politics of Leigh Hunt, and looked upon Keats as his follower tarred with his brush. One of its contributors—probably Lockhart, in the course of a famous diatribe against the "Cockney School" of poets—said of Keats' volume: "We venture to make one small prophecy—that his bookseller will not a second time venture £50 upon anything he can write. It is a better and wiser thing to be a starved apothecary than a starved poet; so back to the shop, Mr. John, back to plasters, pills and ointment boxes, etc. But, for Heaven's sake, young Sangrado, be a little more sparing of extenuatives and soporifics in your practice than you have been in your poetry!" This mud-slinging attack has long ceased to carry weight, but at the time it affected a young and sensitive author. During April, 1817, Keats stayed in the Isle of Wight. He unpacked his Shakespeare and, among other things, read "King Lear," where the passage, "Do you not hear the sea?" suggested this sonnet:—

ON THE SEA

It keeps eternal whisperings around
Desolate shores, and with its mighty swell
Gluts twice ten thousand caverns; till the spell
Of Hecate leaves them their old shadowy sound.
Often 'tis in such gentle temper found
That scarcely will the very smallest shell
Be moved for days from whence it sometime fell
When last the winds of Heaven were unbound.
O ye! who have your eyeballs vext and tir'd,
Feast them upon the wideness of the Sea;
Oh ye! whose ears are dinn'd with uproar rude,
Or fed too much with cloying melody—
Sit ye near some old cavern's mouth and brood
Until ye start as if the sea nymphs quired.

The earlier part of 1818 was spent in Hampstead composing poems which form part of his second published volume. Later in this year he set out on a walking tour with Brown. Over-exertion and bad weather caused the onset of the tubercular disease which so speedily proved fatal. The two friends travelled first to the English Lakes. Keats' brother, George, and his wife were emigrating to America, and they travelled to Liverpool together. From there Brown and Keats went on to Windermere; the scenery greatly delighted them. They then climbed Skiddaw and passed on through the Burns country to Ben Nevis, Keats writing a series of poems recording his impressions of the tour. On the 8th of August he set sail in a smack from Cromarty. In the Highlands a sore throat had developed, which proved to be tubercular laryngitis. In some lines written in January, 1818, he expressed his anxiety lest the higher purpose of his life should fail for want of time:—

When I have fears that I may cease to be
Before my pen has glean'd my teeming brain,
Before high-piled books, in charactery,
Hold in rich garners the full-ripen'd grain;
When I behold, upon the night's starr'd face,
Huge cloudy symbols of a high romance,
And think that I may never live to trace
Their shadows, with the magic hand of chance;
And when I feel, fair creature of an hour,
That I shall never look upon thee more,
Never have relish in the faery power
Of unreflecting love; then on the shore
Of the wide world I stand alone, and think
Till love and fame to nothingness do sink.

In October of 1818 an event happened which sealed Keats' fate. He made the acquaintance of a widow, Mrs. Brawne, with one of whose daughters, Fanny, he fell deeply in love. In April, 1819, he became engaged to her. She inspired some of his finest poetry, but she also wrung his heart. Keats had lost his father and mother in boyhood, one of his brothers had just died, the other had gone to America, his only sister was kept from him by her guardian. His whole soul longed for some object upon which he might lavish his affection. Fanny Brawne loved him sincerely, but she did not understand his passionate nature. She was young, liked admiration, and enjoyed going to dances with the officers who had followed Wellington in Spain during the Peninsular War and conquered Napoleon at Waterloo. Keats was not a dancer, and suffered acutely from jealousy. His whole being was raised, and yet greatly tormented. One of his sonnets written at this time has been named as a Sonnet on Fame, but it shows plain internal evidence that he was greatly tempted as young men and women of twenty so frequently are, and that he saw clearly that, however long and difficult the struggle may be, we must all face it and learn to keep passions under reasonable control. Viewed thus, it is a wonderful psychological study. It reads:—

"YOU CANNOT EAT YOUR CAKE AND HAVE IT, TOO."—*Proverb.*

How fever'd is the man, who cannot look
Upon his mortal days with temperate blood,
Who vexes all the leaves of his life's book,
And robs his fair name of its maidenhood;
It is as if the rose should pluck herself,
Or the ripe plum finger its misty bloom,
As if a clear lake, meddling with itself,
Should cloud its pureness with a muddy gloom.
But the rose leaves herself upon the briar,
For winds to kiss and grateful bees to feed,
And the ripe plum still wears its dim attire,
The undisturbed lake has crystal space.
Why then should man, teasing the world for grace,
Spoil his salvation for a fierce miscreed?

In December, 1818, his brother Tom died, nursed by Keats to the end. The year 1819 was commenced with a January visit at first to Chichester and then to Bedhampton, in Hampshire. He walked from one place to the other. For a part of his stay he was seriously ill, and his account of his visit is that he did nothing—hardly stirring beyond the gate at Bedhampton. During the time he composed a lovely and fairy-like poem, " The Eve of St. Agnes," a piece most suitably read aloud upon a cold winter's evening. The legend is that if, on the night of January 21st, a girl performs certain ceremonies and goes to bed in the right way she will be sure to dream of her future husband, who in her sleep will visit and comfort her. This theme is developed by Keats in a light and charming manner in a poem written in Spenserian stanzas. The opening description of the coldness of the January night will give a taste of the quality of the poem.

THE EVE OF ST. AGNES

St. Agnes' Eve—Ah, bitter cold it was !
The owl, for all his feathers, was a-cold,
The hare limp'd trembling through the frozen grass
And silent was the flock in woolly fold :
Numb were the Beadsman's fingers, while he told
His rosary, and while his frosted breath,
Like pious incense from a censer old,
Seem'd taking flight for Heaven, without a death,
Past the sweet Virgin's picture while his prayer he saith.

His prayer he saith, this patient holy man ;
Then takes his lamp, and riseth from his knees,
And back returneth, meagre, barefoot, wan,
Along the chapel isle by slow degrees :
The sculptur'd dead, on each side, seemed to freeze,
Emprison'd in black, purgatorial rails :
Knights, ladies, praying in dumb oratories,
He passeth by, and his weak spirit fails,
To think how they may ache in icy hoods and mails.

This description of the old retainer in the icy church leads on to an account of the castle, its inhabitants and their occupations, leading up to the lovely lady and to the man of her dreams.

During April and May of 1819, while living at Wentworth Place in Hampstead, Keats greatly enjoyed the singing of the nightingale, and one morning, sitting under a tree in the garden, wrote on some scraps of paper the " Ode to a Nightingale," of which only two stanzas can be given here :—

Thou wast not born for death, immortal Bird !
No hungry generations tread thee down ;
The voice I hear this passing night was heard
In ancient days by emperor and clown :
Perhaps the selfsame song that found a path
Through the sad heart of Ruth, when sick for home,
She stood in tears amid the alien corn ;
The same that oft-times hath
Charm'd magic casements, opening on the foam
Of perilous sea, in faery lands forlorn.

Forlorn ! the very word is like a bell
To toll me back from thee to my sole self !
Adieu ! the fancy cannot cheat so well
As she is fam'd to do, deceiving elf.
Adieu ! Adieu ! thy plaintive anthem fades
Past the near meadows, over the still stream,
Up the hill-side ; and now 'tis buried deep
In the next valley-glades :
Was it a vision, or a waking dream ?
Fled is that music : Do I wake or sleep ?

During this summer Keats suffered severely from his tubercular larynx. In July he visited the Isle of Wight, and in August stayed for a time in Winchester. While walking in the fields there he composed his " Ode to Autumn," which is, perhaps, his highest contribution to poetic art :—

TO AUTUMN

Season of mists and mellow fruitfulness,
Close bosom-friend of the maturing sun ;
Conspiring with him how to load and bless
With fruit the vines that round the thatch-eves run ;
To bend with apples the moss'd cottage-trees,
And fill all fruit with ripeness to the core ;
To swell the gourd, and plump the hazel shells
With a sweet kernal ; to set budding more,
And still more, later flowers for the bees,
Until they think warm days will never cease,
For Summer has o'erbrimm'd their clammy cells.

Who hath not seen thee oft amid thy store ?
Sometimes whoever seeks abroad may find
Thee sitting careless on a granary floor,
Thy hair soft lifted by the winnowing wind ;
Or on a half-reap'd furrow sound asleep,
Drows'd with the fume of poppies, while thy hook
Spares the next swathe and all its twined flowers ;
And sometimes like a gleaner thou dost keep
Steady thy laden head across a brook ;
Or by a cider-press, with patient look,
Thou watchest the last oozings hours by hours.

Where are the songs of Spring ? Ay, where are they ?
Think not of them, thou hast thy music, too—
While barred clouds bloom the soft-dying day,
And touch the stubble plains with rosy hue ;
Then in a wailful choir the small gnats mourn
Among the river shallows, borne aloft
Or sinking as the light wind lives or dies ;
And full-grown lambs loud bleat from hill bourn ;
Hedge-crickets sing ; and now with treble soft
The redbreast whistles in the garden-croft ;
And gathering swallows twitter in the skies.

During the autumn of 1819 Keats became seriously ill. One evening he coughed and brought up blood. His friend Brown relates that he said, " ' Bring me the candle and let me see this blood.' After regarding it steadfastly he looked up in my face, with a calmness of countenance that I can never forget, and said : ' I know the colour of that blood ; it is arterial blood, I cannot be deceived in that colour. That drop of blood is my death-warrant ; I must die.' " He was nursed in Hampstead by Fanny Brawne and

by her mother with devoted care, but he became worse, and the only hope of saving his life was to spend the winter in Italy. So in September, 1820, he sailed from the Thames in a brig, the *Maria Crowther*. During the voyage, while he was becalmed off the Isle of Wight, he composed his last poem, writing it upon a blank page of Shakespeare's Poems, which was his constant companion. His friend Severn, the painter, accompanied him and cared for him until his death in Rome, which occurred on February 23rd, 1821.

We have watched Keats living his life in surroundings familiar to us all. Taking his fill of the sorrows and of the joys, and through it all emerging triumphant over his own difficulties and over death itself. He was only twenty-six years of age when he died, and during little more than three of these he had produced such a wealth of poems and of letters as to cause his thoughts to live and form a subject of world fame to-day. William Watson, the poet, wrote of Alfred Tennyson's death thus :—

> He with diviner silence dwells instead,
> And on no earthly sea with transient roar,
> Unto no earthly airs, he trims his sail,
> But far beyond our vision and our hail
> Is heard for ever and is seen no more.

In a similar mood Keats wrote lines which apply to himself :—

> Thus ye live on high and then
> On the earth ye live again ;
> And the Souls ye left behind you
> Teach us, here, the way to find you,
> Where your other souls are joying,
> Never slumber'd, never cloying.
> Here, your earth-born souls still speak
> To mortals, of their little week ;
> Of their sorrows and delights ;
> Of their passions and their spites ;
> Of their glory and their shame ;
> What doth strengthen and what maim.
> Thus ye teach us, every day,
> Wisdom, though fled far away.

Extracts from Letters to Pensions Office

1. I cannot get sick pay. I have six children. Can you tell me why this is ?

2. This is my eighth child. What are you going to do about it ?

3. Mrs. B. has had no clothes for a year and has been regularly visited by the clergy.

4. I have been cohabiting with several officers down at Headquarters, but so far without result.

5. I am glad to say that my husband, who was reported missing, is now deceased.

6. Sir, I am forwarding my marriage certificate and two children, one of which you will see is a mistake.

7. I am writing to tell you that my baby was born two years. When do I get my money ?

8. Unless I get my husband's money I shall be forced to live an immortal life.

9. I am writing these few lines for Mrs. J., who cannot write herself. She expects to be confined next week, and can do with it.

10. I am sending my marriage certificate and six children. I had seven and one died, which was baptised on half a sheet of notepaper by the Rev. Mr. Thomas.

11. Please find out for certain if my husband is dead, as the man I am living with won't eat or do anything until he knows for certain.

12. I am very amazed to find you have branded my eldest son illiterate. Oh ! it is a dirty lie, because I married his father a week before he was born.

13. My father has been put in charge of a spittoon ; do I get more money ?

14. In answer to your letter, I have given birth to a boy weighing 10 lb. I hope this is satisfactory.

15. You have changed my little boy into a little girl. Will it make any difference ?

16. Please send my money at once. I need it badly ; I have fallen into areas with my landlord.

17. I have no children yet. My husband is a bus driver and works night and day.

18. In accordance with your instructions I have given birth to twins in the enclosed envelope.

19. I want my money as quick as you can send it. I have been in bed with the Dr. for a week and he doesn't seem to be doing me much good, and if things don't improve I shall have to get a new Dr.

20. Dental inquiry.—The teeth on the top are all right, but the ones in my bottom are hurting terribly.

21. Do I get any more money ? My husband has been sent to a Constipation Camp.

X. Y. Z.

Sherlock Holmes and Dr. Watson*

By Maurice Campbell

I.—THE MEDICAL KNOWLEDGE OF DR. WATSON

*Based on a Clinical Lecture at Guy's Hospital, and a Paper read to the Abernethian Society, St. Bartholomew's Hospital.

" One likes to think that there is some fantastic limbo for the children of imagination, some strange impossible place where the beaux of Fielding may still make love to the belles of Richardson, where Scott's heroes may still strut, Dickens' delightful Cockneys still raise a laugh, and Thackeray's worldlings still carry on their reprehensible careers. Perhaps in some humble corner of such a Valhalla Sherlock and his Watson may for a time find a place. . . ."—*Conan Doyle; Preface to " The Case Book of Sherlock Holmes."*

AMONG the many well-known characters of Victorian fiction Sherlock Holmes and Dr. Watson have found a secure place. For the middle-aged, who remember their adventures in old *Strand Magazines*, most modern detective stories provide a poor substitute, though the prototype on which they have been roughly modelled is only too obvious. During the last few years this interest has led to several investigations in the life history of Holmes and his faithful companion.* None of these have dealt specifically with the medical problems involved, though these are of great interest, for Watson's views can be taken as representative of the solid practitioner of the late Victorian age, and the more specialised and scientific knowledge as the special métier of Holmes. Had Watson not been a doctor the stories would have lost a good deal in accuracy.

Naturally, when dealing with crime there must be many medical details, but it is surprising how many incidental references there are in addition, showing that Watson was really interested in his profession and looked at life from a medical angle. For example, instead of reading that Victor Trevor was the sole surviving child, which is all that is essential from the story, we are told that his only sister had died of diphtheria in Birmingham (The Gloria Scott). Similarly we read that Dr. Grimsby Roylott's wife had been killed in a railway accident at Crewe (The Speckled Band), that Ronald Adair's mother had returned from one of the Australian colonies to undergo an operation for cataract (The Empty House), and that old John Turner, whose natural death was needed to save him from the gallows, had suffered from diabetes for some years (The Boscombe Valley Mystery). Possibly his limp, the impressions of which in the end helped Holmes to trace him, may have been due to diabetic neuritis, for he died within seven months.

Since then, with the general use of anti-diphtheritic serum (1896), and with the discovery of insulin (1922), two of these tragedies might have been avoided. And if it is still possible to be killed in a train, such a death is now rare compared with death in a motor accident.

Any medical reader must be struck by the careful descriptions of the appearance and build of some characters, and will notice that the diseases from which they suffered are often found in people of such constitution. For example, there is the excellent account of the mental and physical characteristics of one type of hypochondriac, Thaddeus Sholto: " A high head with a bald, shining scalp, and yet an impression of youth—his features in a perpetual jerk. . . . He began at once on Watson's arrival—' Have you your stethoscope? I have grave doubts as to my mitral valve, if you would be so good. The aortic I may rely upon, but I should value your opinion on the mitral.' Watson listened and could find nothing amiss. When they left his house to drive to Norwood he finished his attire by putting on a rabbit-skin cap with hanging lappets which covered the ears. ' My health is somewhat fragile,' he remarked in his thin, high voice, ' I am compelled to be a valetudinarian ' " (The Sign of Four). A troublesome type of patient whom we all know only too well.

Or we have the picture of the lady who killed the professor's secretary, who was so short-sighted that she was forced to wear concave glasses of unusual strength—" with remarkably thick nose, with eyes set close on either side, with a puckered forehead, a peering expression and rounded shoulders, and yet with a long and obstinate chin." In spite of her somewhat unattractive exterior she showed that she was a woman of high ideals and quick decisions " (The Golden Pince-Nez).

Or again, the picture of Mr. Henry Baker, whose characteristics were so accurately deduced from his battered black felt hat—" a large man

* " Dr. Watson; Prolegomena to a Biographical Problem," by S. C. Roberts (Faber & Faber): " Sherlock Holmes; Fact or Fiction? " by T. S. Blakeney (John Murray); " Sherlock Holmes and Dr. Watson," by H. W. Bell. (Constable & Co.) I did not allow myself to read Mr. Bell's scholarly masterpiece until I had completed this paper and, as will be seen, have not always reached the same conclusions about the dates of the stories.

with a massive head and broad, intelligent face—a touch of red in nose and cheeks with a slight tremor of his hand," which recalled Holmes' surmise as to his habits. He spoke in a low staccato fashion, choosing his words with care, and gave the impression of a man of learning who had had ill usage at the hands of fortune (The Blue Carbuncle).

All these are familiar faces at Out-Patients, and we see Watson was interested in the constitutional types who are prone to particular diseases, a study brought to a more formal and scientific status by the researches of Draper. As another illustration there is the picture of James Armitage, alias Trevor, who died from cerebral hæmorrhage, probably from the posterior inferior cerebellar artery. On receiving a message about flypapers and hen pheasants, which meant so much to him and so little to everybody else, he began running round the room in little circles, and when laid on the sofa by his son his mouth and eyes were puckered to one side and a stroke was correctly diagnosed. The paralysis spread, and he barely recovered consciousness and died about twelve hours later (The Gloria Scott). Six months before he had had a short syncopal attack, and explained it away as due to a weak heart, but almost certainly this must have meant high blood pressure with cerebral angiospasm rather than an ordinary faint, and the suddenness of the attack was stressed. His build bears out this diagnosis—he was a thick-set, burly man, with a brown weather-beaten face and blue eyes keen to the verge of fierceness; he must have been about forty-eight, and had had a hard life in the goldfields of Australia.

In all stories of this type, murder and sudden death must figure largely, and the way in which these are handled gives a good indication of medical knowledge. Watson realised clearly that, where death took place almost at once, it was generally from injury to the heart, *e.g.*, William, the coachman, who never spoke again, was shot through the heart (The Reigate Squires); Hilton Cubitt died instantaneously, for the bullet had perforated the heart (The Dancing Men); and Stangerson, who died so quickly that even in Halliday's Private Hotel no one heard a sound, had received a deep stab in the left side, penetrating the heart (The Study in Scarlet).

On the other hand, when Woodley boasted that Carruthers was too late because Violet was now his wife, and received a revolver bullet through his chest with the prompt reply, " No, she's your widow," Watson was at once able to say that he would live, in spite of his dreadful pallor, because the bullet had only passed through his lungs (The Solitary Cyclist). In the same way the young secretary had time before he died to murmur, " The Professor—it was she," when he was stabbed by the short-sighted lady and received a small, deep wound which divided the carotid artery (The Golden Pince-Nez). Watson himself had been more fortunate when he was wounded in Afghanistan, for the bullet just grazed the subclavian artery (The Study in Scarlet), and after his wound had healed left him with nothing worse than occasional rheumatism.

Watson realised, too, that, apart from the heart, the medullary centres in the brain are most likely to produce rapid, but not quite instantaneous, death. McCarthy was killed from a heavy blow which shattered the posterior third of the left parietal bone and the left half of the occipital bone, but his son had time to run back 150 yards and hear his mumbled words about Ballarat (The Boscombe Valley Mystery). Heidegger, the German master, when his skull was crushed by a savage blow fell from his bicycle, mounted again and rode some yards before he died (The Priory School). Selden, the Dartmoor convict, when he fell on the rocks flying from the Hound of the Baskervilles, was heard to be moaning before he died from a fractured skull. We do not know how soon the trainer died after his skull was shattered by a kick from his horse, but he must have fallen unconscious at once, for he cut himself with his tenotomy knife as he was falling (Silver Blaze). On the other hand, when Watson found the groom unconscious, but with a terrible cut on the head, a glance told him that it had not penetrated the bone, so that he felt justified in hurrying on to try and rescue the " Solitary Cyclist."

In most of these cases enough facts are given for one to say that the results are such as would be expected medically from the previous events, and that Watson had accurate knowledge on these subjects. Trevor's symptoms before his death are described so fully that one can make a diagnosis of the actual artery which ruptured and produced the fatal cerebral hæmorrhage; almost certainly Watson must have witnessed such a case, because the description is more detailed than would be found in most shorter medical text-books.

There are two sudden deaths of special interest, because the circumstances were such as to raise a suspicion of foul play. In one we are told the findings at the inquest, and the facts described lead to the same conclusion; in the other the symptoms are given in sufficient detail to enable one to make the correct diagnosis.

Captain Morston and Major Sholto were having a rather heated discussion about the Agra treasure when Morstan, springing from his chair in a

paroxysm of anger, with his face a dusky hue, suddenly pressed his hand to his chest and fell backwards and cut his head on a box. Major Sholto found that he was dead, and as they had been quarrelling, even Sholto's own servant assumed that he had killed Morstan with a blow. Morstan had suffered with his heart for some years, and this, with the pain in the chest and the cyanosis, point to a syncopal attack associated with angina pectoris (The Sign of Four).

Colonel Barclay died under similar circumstances after a quarrel with his wife, and so she was accused of causing his death, but at the inquest the verdict was cerebral hæmorrhage, with external injuries resulting from his fall. The converse was illustrated in a well-known murder trial of a few years ago, famous because of the finding of the body in a railway cloak-room, the defence being that the woman had injured her head on the fender by a fall, but the prosecution successfully maintaining that the injury to the head was the result of a blow. In the story the hæmorrhage had followed the sudden shock of seeing an old rival, whom Barclay thought he had murdered twenty years before, at a moment when his blood pressure was already raised by quarrelling with his wife (The Crooked Man).

Both these natural deaths occurred as the result of emotional causes during quarrels. It is a popular, but incorrect, view that many illnesses are due to such external factors. Watson, however, has carefully chosen cases where it was likely to be correct for excitement of any sort, especially anger, may precipitate an attack of angina or cerebral hæmorrhage, whether by raising the blood pressure or otherwise.

It would take too long to review all that is of medical and scientific interest, but I have collected as examples most of the allusions to heart disease and to tropical disease because in these two subjects at any rate Watson seems to have been excellently informed.

DISEASES OF THE HEART

There are two detailed descriptions of heart disease and many shorter allusions, as well as the death from angina just described. Major Sholto died from left ventricular failure, probably secondary to high blood pressure; and orthopnœa, is rightly emphasised by Watson as a leading symptom. " When we entered his room he was propped up with pillows and breathing heavily. . . grasping our hands he made a remarkable statement in a voice broken as much by emotion as by pain. . . . At this instant a horrible change came over his expression—his eyes stared wildly, his jaw dropped, and he yelled, ' Keep him out.' We rushed to the window, and when we returned his head had dropped and his pulse ceased to beat " (The Sign of Four). No wonder his son, Thaddeus Sholto, became hypochondriacal about his mitral valve.

The other is a good description of an aortic aneurism. When Jefferson Hope was arrested he remarked that he might not live for the trial. " It isn't suicide I am thinking of; put your hand on my chest," he said. Watson did so, and at once became conscious of an extraordinary throbbing and commotion inside. The walls of his chest seemed to quiver as a frail building would when some powerful engine was at work. In the silence of the room he could hear a dull humming and buzzing noise which proceeded from the same source. I sometimes wish that you could all use an equally dramatic style in writing your ward reports.

" Why," cried Watson, " you have an aortic aneurism."

" That's what they call it," he said frankly. " I went to the doctor last week, and he told me it was bound to burst before many days passed."

The ætiology was wrongly attributed by Watson to exposure and under-feeding among the Salt Lake Mountains, but the prognosis was better than in a patient seen recently, who had been told eleven years before that his aneurism might burst any day, for on the very night after his capture this happened, and he was found stretched on the floor of his cell with a placid smile on his face as though he had been able to look back on a useful life and on work well done. He was a robust and ruddy-faced man, tall and of great strength, and no doubt his hard-working life was a contributing factor in the production of the aneurism.

The death of Sir Charles Baskerville was attributed to heart disease, and, though the medical details are fairly satisfactory, it is possible to be critical here. The newspaper account of the inquest said that there was no reason to suspect foul play or to imagine that it could be from any but natural causes. The evidence of the housekeeper was that his health had been impaired for some time, and that the breathlessness, changes in colour, and attacks of nervous depression pointed to some affection of the heart. Dr. James Mortimer, his medical attendant, gave evidence to the same effect (and I hope you will not have the same experience of your evidence being dismissed in this cursory fashion after so much attention had been given to that of the housekeeper). No signs of violence were to be discovered upon Sir Charles's person, but the facial distortion was explained as a not unusual symptom in death from cardiac exhaustion. The post-

mortem examination showed long-standing organic disease, and the coroner's jury returned a verdict in accordance with the medical evidence.

But Dr. Mortimer had suppressed the finding of the footprints of a gigantic hound, and we know that it was in running desperately from this that his diseased heart gave out. My criticism here would be that facial distortion is not a usual feature of cardiac deaths; that angina pectoris is the only likely cause of sudden unexpected death, in which case he would probably not have moved from the gate, and that patients do not usually die in their first attack of angina (Dr. Mortimer would certainly have stated at the inquest that he had suffered from angina previously if this had been so) unless they have an infarct, which should have been revealed by the post-mortem. Perhaps this is expecting too high a standard, for though, of course, coronary infarction was well known to pathologists, the clinical picture of coronary thrombosis was not recognised till some years later (1912).

In any case Sir Charles had old-standing heart disease, presumably myocardial degeneration, and died from the effects of his fright and sudden exertion on this diseased heart muscle. As he was about fifty and there was a family history of sudden deaths, it is all a very reasonable series of events from the medical point of view, and these minor criticisms only show what a high standard of accuracy Watson has led us to expect.

Among the shorter allusions we read of the young science master whose life had been crippled by heart trouble following rheumatic fever (The Lion's Mane), suggesting that Watson realised this was the most likely cause of heart disease in a young man. A later stage of rheumatic heart disease is described in Lady Beatrice Falder, who was known to have had heart disease and had been incapacitated by her dropsy for some years (Shoscombe Old Place); probably from the length of the history she had auricular fibrillation and mitral stenosis. When she died from increasing dropsy her brother tried to dispose of the body and employed someone to act her part, so that he might keep her estate long enough to win a fortune on the Derby. His ingenious scheme was rewarded, and the coroner took a more lenient view of the transaction than seems likely.

When the managing director of the mythical Franco-Midland Hardware Company was cut down as he tried to hang himself, Watson stooped down and examined his pulse. It was feeble and intermittent, but as his breathing grew longer Watson remarked that he would recover, though a moment before he was lying with a slate-coloured face, puffing his purple lips in and out with every breath (The Stockbroker's Clerk).

It is doubtful if the works of any other novelist contain descriptions of extrasystoles, of œdema due to fibrillation, of angina pectoris, of aneurism, of rheumatic valvular disease, and of ventricular failure with orthopnœa with such careful adherence to medical probabilities.

On re-reading these stories one is amazed at the prevalence of fainting, and almost surprised to find a story in which someone does not faint. Fainting was generally regarded as the prerogative of the young lady of the Victorian age, but a quick perusal provided me with twenty-one instances, and in thirteen of these it was a man who fainted.

One of the early examples gives the impression that Watson shared the popular delusion that fainting is likely to indicate heart disease (The Gloria Scott). Recollecting that he was trained at St. Bartholomew's Hospital and not at Guy's, this seemed only too likely, but subsequent examples did not support this, and generally in Watson's accounts, as in real life, the cause was simply shock or emotion, as when Watson himself fainted for the one and only time in his life on seeing Holmes return, as he thought from the dead (The Empty House).

There is a clear description of the whole condition with accurate details in one case when loss of blood was an additional factor: "Suddenly, however, as I ran a deadly dizziness and sickness came over me. I glanced at my hand, which was throbbing painfully, and saw for the first time that my thumb had been cut off and that blood was pouring from my wound. I tried to tie a handkerchief round it, but there came a sudden buzzing in my ears and next moment I fell in a dead faint among the rose bushes. How long I remained unconscious I cannot say" (The Engineer's Thumb).

Dr. Huxtable's faint is of interest because Watson adds his observations and conclusions about the cause. He staggered against the table and fell prostrate on the hearth-rug. Holmes hurried with a cushion for his head and Watson with brandy for his lips. "What is it, Watson?" asked Holmes. "Absolute exhaustion—possibly mere hunger and fatigue," said Watson, with his finger on the thready pulse, where the stream of life trickled thin and small. The puckered eyelids began to quiver, and soon a pair of vacant grey eyes looked up at them; an instant later the man had scrambled to his feet, his face crimson with shame (The Priory School). Often the cause was purely emotional, and in this Watson has again made a correct observation. The occasion which seems most untrue to life was when a journalist fainted on finding a murdered man on his own doorstep, and was so upset by it that he was unable

to make any copy out of the incident (The Six Napoleons).

In the Blue Carbuncle we have an example of considerable psychological interest, which, incidentally, shows the fallacy of the American methods of crime detection according to the emotional response. Horner, the plumber, who was innocent, gave signs of intense emotion during the proceedings, and fainted away at the end and was carried out of court; but Ryder, the hotel attendant, who was guilty of the theft, did not lose consciousness when he was unexpectedly accused by Holmes, though he almost collapsed and had to be revived by a drop of brandy.

In this question Watson followed the still prevalent lay tradition that brandy is the only treatment for fainting, and that it is more efficacious than other spirits for medical purposes. We frequently read of whisky being drunk for pleasure, but brandy no longer appears in this way as it did in the pages of Dickens. On the other hand, there are at least ten occasions when a sufferer was revived from a faint by brandy. But perhaps Watson realised that it was not really essential, for on the two occasions when Miss Morstan, his fiancée, fainted he only offered her water; however that may be, these were the only times that water was used instead of brandy.

We must feel that Watson observed an unusual amount of fainting, but that, with this exception, he has given a very accurate picture of it, and fully realised that it was due to emotional and general causes and not to heart disease.

DISEASES OF THE CHEST

Consumption is mentioned in several of the stories, and accurately, as a likely cause of death in a young person. Thus the young wife of the Cambridge rugger captain died of consumption of the most virulent kind (The Missing Three-Quarter), and it was the death of the consumptive tutor which led to the collapse of Stapleton's school (The Hound of the Baskervilles). When Moriarty wished to find Holmes alone he recalled Watson to the Swiss Hotel with a faked message about the English lady in the last stages of consumption who had just suffered from hæmoptysis (The Final Problem). In this Watson appeared to share the Victorian view that Switzerland was the correct treatment for consumption, or perhaps he merely knew that it was likely a patient would be sent there by other doctors. He did not share the novelist's convention that the heroine, disappointed in love, went into a decline and died of galloping consumption, though when Miss Hetty Doran heard of the supposed death of her husband, whom she had married secretly, her father had suspected that she had a decline and had taken her to half the doctors in San Francisco (The Noble Bachelor).

Except for these cases of tuberculosis there is not much mention of diseases of the lungs. Detective Athelney Jones, red-faced, burly, and plethoric, with a pair of small twinkling eyes, which look out keenly from swollen and puffy pouches, probably had chronic bronchitis, for his breathlessness and wheezing are mentioned (The Sign of Four), and Mr. McFarlane had asthma (The Norwood Builder).

NERVOUS DISEASES

These appear in many of the stories, and Watson was evidently interested but less accurate in his knowledge than on other subjects, though we must remember that since then great strides have been made in psychology and in the distinction between diseases which are primarily of the brain and others which are of the mind.

Taking first those with a physical basis in the brain, two cases of cerebral hæmorrhage have already been discussed, and here Watson's knowledge was first-class. St. Vitus' dance is a rather wide term in medicine, because it was originally applied in the Middle Ages to a hysterical dancing gait (chorea major), which was often cured by a pilgrimage to the tomb of St. Vitus, at Zebern, and was unfortunately adopted by Sydenham, the great English physician, to a totally distinct disease with jerky movements caused by the effect of acute rheumatism in the brain (Sydenham's or rheumatic chorea). But Watson uses the term in neither of these senses, for Mr. Latimer, "whose lips and eyelids were constantly twitching like a man with St. Vitus' dance" (The Greek Interpreter), presumably had a nervous tic or habit spasm which some of the older books called habit chorea.

And Dr. Farquhar, who sold his Paddington practice to Watson because he suffered from an affection of the nature of St. Vitus' dance (The Stockbroker's Clerk), more likely had paralysis agitans; he might have had Huntington's chorea, a hereditary disease ending in madness, but this is a very rare condition. Watson remarks shrewdly that the practice had declined greatly because the public look askance at the curative powers of the man whose case is beyond the reach of his own drugs.

Nor can we think very highly of Watson's knowledge of epilepsy, for he was deceived when Holmes pretended to have a fit (The Reigate Squires). But even Dr. Percy Trevalyan, of King's College Hospital, who was specially interested in catalepsy after winning the Bruce

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John Keats

Pinkerton prize for his monograph on Obscure Nervous Lesions, was deceived by the simulated catalepsy of one of the Worthington bank gang when they came to wreak their revenge on Blessington (The Resident Patient).

Turning to the opposite group of purely mental diseases, these are not often referred to, but in the "Six Napoleons" Watson suggested that the destruction of the plaster casts was due to a monomaniac with *idée fixe*, as the modern French psychologists called it—as we can imagine a modern anti-Fascist destroying all effigies of Mussolini. Hysteria is mentioned twice on occasions when it might be expected quite naturally. The first, when Rachel Howells, the Welsh maid, became acutely ill, sometimes delirious, sometimes hysterical, after the mysterious death of the butler who had been her lover (The Musgrave Ritual); her subsequent disappearance may well have been an hysterical fugue with genuine loss of memory. The second was when Mr. Hatheley burst into peals of hysterical laughter after Watson had dressed the stump of his thumb (The Engineer's Thumb).

A large number of references are to acute mental illnesses following shock. Thus Mrs. Barclay became temporarily insane from shock when she was suspected of killing her husband (The Crooked Man), and considering all that had been revealed to her that night it was no wonder; perhaps Sarah Cushing might also be included here (*see below*). Even Holmes suffered from an attack of "nervous prostration" from overwork (The Reigate Squires), and later had to go away to Cornwall to avoid a breakdown (The Devil's Foot).

But it is on the question of "brain fever" that Watson was most at fault and failed to realise the "mental" effects of severe and sudden shock. Thus Phelps had a fit at the station followed by nine weeks' brain fever when a valuable document was stolen (The Naval Treaty); Sarah Cushing had brain symptoms of great severity and was not allowed to see anyone, when she alone realised how her sister had been murdered (The Cardboard Box); and even Sir Henry Baskerville was delirious and in a high fever from nervous shock (The Hound of the Baskervilles). These physical effects are not what we should expect from such mental causes in normal people. When Ruscastle's daughter got brain fever from being worried to sign away her inheritance she was at death's door for six weeks, and we hear that all her hair was cut off—a treatment which would hardly be adopted now in a patient with a mental breakdown.

TROPICAL DISEASES

Tropical diseases, with their devastating onset, their dramatic treatment, and their fascinating natural history, in which rats or mosquitoes or liver flukes may play a part, have always been of great interest to the doctor travelling in the East; and as Watson had "an experience of woman extending over many nations and three separate continents" (The Sign of Four), he must have travelled widely, and they could hardly fail to make a strong appeal. All the more so as he himself while recovering from his wound in India was stricken with typhoid, which, no doubt, gave him a special interest in that disease.

Apart from Watson's own attack, when his life was despaired of and he became so weak and emaciated that he was invalided home from Peshawar, we are told that the first Mrs. Douglas had died of typhoid in California. And the house in London in which Enoch J. Drebber, of Cleveland, was murdered (Study in Scarlet) was empty because the last tenant had died of typhoid and the landlord was unwilling to have the drains seen to. It is not quite clear from this last remark if Watson shared the Victorian lay view that bad smells were responsible for diseases such as typhoid, or if he knew that bad drains were only significant because they might contaminate the water supply. Anyhow such an occurrence is now unlikely in London, and the virtual disappearance of typhoid in England with improved sanitation (the death rate was 174 per million in 1891-1900 and only 35 per million in 1911-20), and its prevention, even during the Great War, by typhoid inoculation (Wright, 1904) must have given Watson immense pleasure, for he had described it as that curse of our Eastern possessions.

Malaria is one of the commonest diseases, and there are many references to it in the Sign of Four. Jonathan Small described his life in the Andaman Islands: "Twenty long years in that fever-ridden swamp, all day at work under the mangrove tree, all night chained up in the filthy convict huts, bitten by mosquitoes, racked with ague . . . that is how I earned the Agra treasure" —as that was in 1888, he was quick to adopt Manson's six-year-old hypothesis that malaria was caused by the bite of a mosquito before its formal proof by Ross in 1898. Watson also realised that attacks rarely continued for more than a year or two after returning to England, unless there was a reservoir for re-infection, such as a large spleen, for we read that Major Sholto, of the Indian Army, had suffered for years from an enlarged spleen which was obviously malarial and accompanied by recurrences calling for treatment, because he

describes the chaplet of pearls as on his dressing table by the quinine bottle (The Sign of Four).

One of the prisoners on the ill-fated voyage of the *Gloria Scott* was in bed with jaundice, and, considering the rats and the conditions likely to have prevailed on a convict ship during the Crimean War (1854-56), it is tempting to guess that this was a case of spirochætosis ictero-hæmorrhagica, though the cause was not discovered till many years later (1915). Though this is a most infectious form of jaundice, there would have hardly been time for other cases to develop for the ship was blown up shortly afterwards.

Roger Baskerville died from yellow fever in 1876 in Central America, and Mrs. Hebron's first husband from the same disease in Atlanta; most likely the Atlanta referred to was in Georgia, for, though it is rather high up and not on the sea coast, it would bring both sites into the yellow fever belt, and Mr. Hebron may have acquired the disease on a visit to the sea coast and travelled home during the incubation period; his death must have been about 1880. It was about 1900-1902 that Lazear and Reed proved its conveyance by an infected brindled mosquito, and that Gorgas made Havana safe by his systematic measures for the destruction of this mosquito, the high death rate which had been present for 150 years disappearing almost completely. Lazear died of the disease, and as we at Guy's know only too well from the death of Adrian Stokes, it has always been a dangerous one for doctors. The terrible mortality of yellow fever had long made it of interest even to non-medical authors, for in "Vanity Fair," dealing with the period after the Napoleonic War, Thackeray sent the notorious Rawdon Crawley to be Governor of the Coventry Islands, whence he was not expected to return. Surely this must be the origin of "sending to Coventry," an expression which has always seemed puzzling. A more recent episode would have brought it again before the notice of the public, for in January, 1885, the *Iolanthe* had arrived in the Tyne from West Africa; six of the crew had died at sea from yellow fever and the mate and a boy were the only ones left on the ship, the captain and the other survivors of the crew of seventeen having deserted at Havre.

Finally, there is the description of the leper hospital in South Africa. Corporal Emsworth had been wounded in the shoulder and managed to ride some way till he fainted and fell from his horse. He managed to crawl to a house and put himself in an empty bed, but, to his horror next morning, found he was in a leper colony which had been in disorder because it had been partly evacuated during the fighting. The description of the lepers with their deformed limbs is characteristic of the late stages of leprosy. But the rest of the story, though possible, is certainly unlikely; we cannot in any way blame Watson for this, for he was not present and even the account of the story was written by Holmes. But one does feel inclined to blame Dr. Kent for being willing to diagnose such a serious condition as leprosy without better evidence, expecially as Emsworth had only slept one night in the leper colony; like most people who are too ready to make a diagnosis on insufficient grounds, he was not at all willing to have his diagnosis questioned. The specialist whom Holmes brought realised at once that it was icthyosis; possibly ichthyosis histrix might have some very superficial resemblance to leprosy, but sclerodermia would have been more likely to be mistaken for leprosy and would have been more likely to follow the shock of sleeping in the leper colony and the fear that he might have developed leprosy. Probably Holmes got muddled about what the specialist really said, as laymen often do; and here is another example of the many inaccuracies which would have been found had Dr. Watson not edited the stories.

(*To be continued.*)

"Ruddigore"

By Guy's Hospital Musical and Operatic Society

CAST

Sir Ruthven Murgatroyd	Mr. Cyril F. Wright
Richard Dauntless	Mr. William R. Fogg
Sir Despard Murgatroyd	Mr. Norman L. Barber
Old Adam Goodheart	Mr. R. D. Ogston
Sir Roderick Murgatroyd	Mr. W. T. J. Fowler
Rose Maybud	Miss Megan Thomas
Mad Margaret	Miss Joan Arthurton
Dame Hannah	Miss Faith Wood
Zorah	Miss Maud Bromwich
Ruth	Miss Nora Jones

THE Operatic Society now stages only one production every two years, and the 1934 successor to the 1932 "Mikado" was Gilbert and Sullivan's "Ruddigore," or "The Witch's Curse."

This amusing burlesque was staged at the Fortune Theatre, Drury Lane. It is pleasant to record that the ambitious venture was a success, and the house was full for every one of the four nights.

"Ruddigore"

By kind permission of London Press Photos, 153, Fleet Street, E.C.4

The curtain—for the benefit of those who do not know their "Ruddigore"—rises on the pleasant fishing village of Rederring. And there we meet a galaxy of rustic beauty and talent, "the only endowed corps of professional bridesmaids in the world . . . on duty each day from ten to four." On that grandly Gilbertian note we swing into the grim drama of Sir Despard Murgatroyd, of Ruddigore, the baronet doomed to perform a wicked deed a day; of Sir Ruthven Murgatroyd, who passes as Robin Oakapple, and of fair Rose Maybud, loveliest of village maidens, mistress of coy deportment.

Miss Megan Thomas, the Rose of Rederring, acted with assurance and sang charmingly. Her duet, "Poor little man, Poor little maid," with Mr. Cyril F. Wright (Robin Oakapple) was grandly done.

With the arrival of Richard Dauntless, the man-o'-warsman, played by Mr. William Fogg, we were given an indication of what good things can come out of the Office. Before he had listened to his heart's dictates and deceived the disguised 22nd baronet in a small matter of love, we were treated breezily to "I shipped, d'ye see, in a Revenue sloop," accompanied by some diverting eye work and an exuberant dance which we understand was a hornpipe, though it would have passed equally well for a tap dance.

Miss Joan Arthurton was a most convincing Mad Margaret. Her final scene, "Basingstoke," with Sir Despard (Mr. Norman Barber), was a grand piece of business. Mr. Barber was deep dyed in villainy in the daily-sinning period of his existence, and nicely sanctimonious in his moments of reaction. His appearance in the cast showed how tenaciously the Society clings to its proven members.

Mr. W. T. J. Fowler's Sir Roderic was another outstanding performance. He sang well, acted well, and, although only he and Mr. Blazeby (an ancestor) were there to represent the Residents, the prestige of that body was very adequately maintained.

Miss Faith Wood gave a commendable study as Dame Hannah, although her joy in reunion with Sir Roderic—and his—was a little unconvincing. Ten years of separation may possibly have created doubts.

The hard-working chorus warmed up to things in the second act. In this act, too, the "ancestors" were at their best—in the portrait gallery where, deprived of the bridesmaids' company, they were able to devote themselves to sustained and earnest stimulation of Sir Ruthven to fresh villainies. The eerie and malicious prelate amongst them was with difficulty identified as Mr. F. A. Rogers.

The production of a light opera of this fabric must necessarily have entailed a tremendous amount of work, and in the distribution of the laurels the Orchestra must receive a very full share, even down to the obtrusive French horn. The secretaries, Messrs. W. Hughes, W. H. Mackay and G. A. R. Winston, deserve every congratulation on their success.

P.W.C.

The Third Biennial Dinner

Guy's Hospital Employees' Association, held at the Bridge House, 7th December, 1934

IN these days of records of every kind it is incumbent, when writing a description of any great event, to find some record which has been broken. Whether or not the number at the Guy's Hospital Employees' Dinner was a record we know not, but certain it is that the amount of enjoyment which everyone obtained can never have been bettered. Everybody seemed to be there, and especially glad were we to see several old and familiar faces such as that of Mr. Nash, who many Guy's men will be glad to hear is still very hale and hearty, and who on this occasion made himself conspicuous by smoking a simply enormous pipe as soon as he was given the word "Go." There was more than one representative of every branch of the Hospital's activities, from the Superintendent, Mr. Eason, to the youngest laboratory assistant. Miss Wilson, of the Counting House, had arranged the menu and, needless to say, the food was excellent. There was only one who we fear can hardly have enjoyed the meal, and that was Mr. Cook, of the Medical School Office, whose sustained efforts to keep the writer plied with liquor were, we regret to say, more than well rewarded.

After we had all done justice to the ample fare, Mr. Eason called for the toast of the "King and the Royal Family," and then we settled in to an evening of speeches, interspersed with songs and stories delivered by a concert party which brought tears to our eyes and made our sides split with laughter.

Mr. Philip Turner proposed the toast of Guy's Hospital and Schools in a style all his own that made those of us who knew them remember those teaching rounds, which became so famous for their wealth of anecdotes. He took us back over the 41 years during which he has been actively associated with the Hospital, and described the eerie nights in the Colonnade before the installation of electric light. Dr. Gillespie in reply pointed out the difficulties of the psychologist, especially with regard to after-dinner speaking, when he felt sure he was expected to disclose " What we really were thinking about."

The Matron rose next to propose the toast of " Service of Guy's Hospital." She became even more reminiscent than Mr. Turner, and in a flight of imagination took us back 210 years to the day when Guy's was first conceived. Nobody could be more suitable to reply to this toast than Mr. Robbins, who rose next. As Renter and Registrar of the Hospital he has known more than anyone else of the " ins and outs " of the recent changes at Guy's. We feel that many are the stories he could tell of the waywardness of superintendents and the truculence of governors. It is sad to think that next year he will be retiring from his post, and we feel that in so doing a link with the past, when the popularity of a physician was judged by the magnificence of his carriage and pair, will be sorely missed.

Mr. Taylor then rose and delivered a tale of woe, in which he quite clearly hankered after the days when the staff numbered no more than 20 and when the urgent demands on the limited resources of the Works Department were correspondingly less severe. However, he told us that his department always worked with the best intentions, and, if given time, would always deliver the goods sooner or later.

It was getting late by this time, so the leader of the concert party invited us to join him in a little chorus to finish off the evening. The writer, we regret to say, was already finished, and is unable to remember the name of the song, but has some recollection of his table being able to make more noise than the top table. Whether or not it was the right noise he cannot say.

D. K.

Obituary

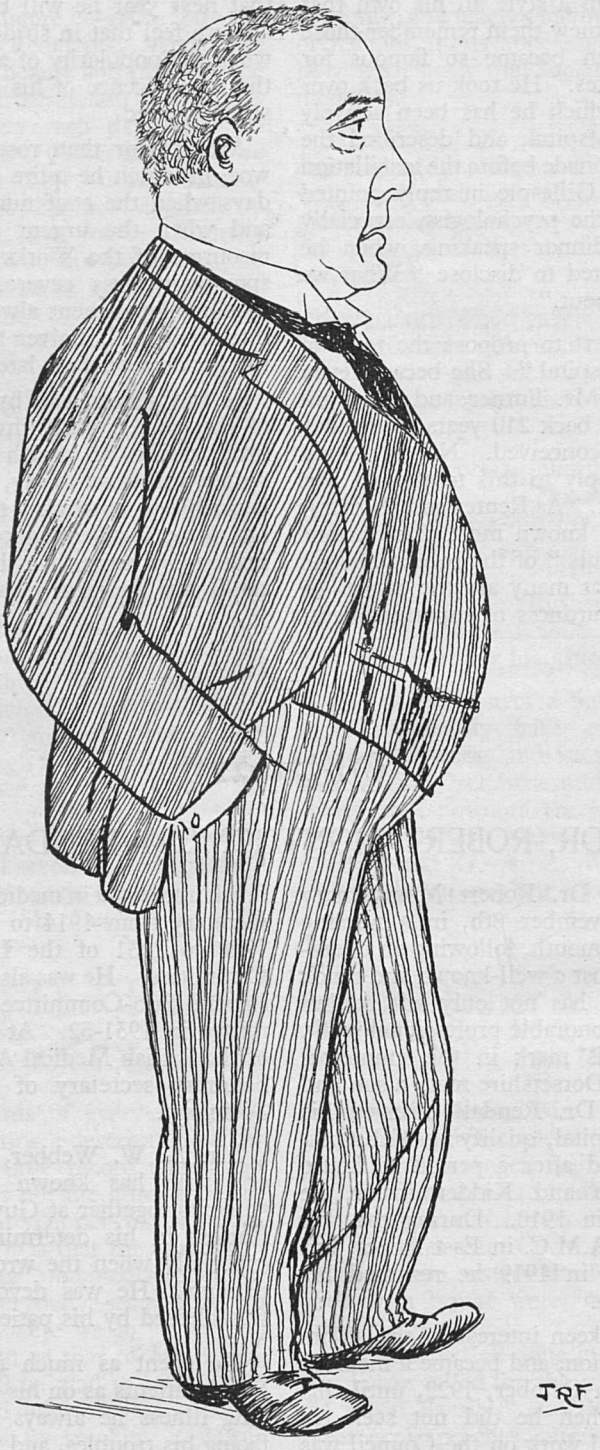
DR. ROBERT MONTGOMERY RENDALL

BY the death of Dr. Robert Montgomery Rendall on November 8th, in a nursing home at Bournemouth, following an operation, Nottingham has lost a well-known and much respected citizen, who has not only left behind him a long record of honorable professional work, but has also make his mark in the municipal affairs of the city. A Dorsetshire man, a son and grandson of doctors, Dr. Rendall received his training at Guy's Hospital, qualifying M.R.C.S., L.R.C.P., in 1906, and after a period as house surgeon at Barnstaple and Kidderminster, he went to Notitngham in 1910. During the war he served with the R.A.M.C. in East Africa, but on being demobilised in 1919 he resumed his practice in Nottingham.

Dr. Rendall took a keen interest in the affairs of the city of his adoption, and became a member of the City Council in October, 1922, until this present November, when he did not seek re-election. His principal work on the Council was done as Chairman of the Mental Hospital and Mental Deficiency Committees. He also was much interested in medical politics, being honorary secretary from 1914 to 1927 and chairman from 1928 to 1931 of the Local Medical and Panel Committee. He was also chairman of the Medical Benefit Sub-Committee of the Insurance Committee in 1931-32. At the Nottingham meeting of the British Medical Association in 1926 he was honorary secretary of the Section of Medical Sociology.

Mr. A. W. Webber, F.R.C.S., writes : " As one who has known Rendall since we were students together at Guy's, I can say that he was fearless in his determination to right a wrong, especially when the wrong concerned one of his patients. He was devoted to his practice, and was blessed by his patients."

He spent as much time and interest on his Panel patients as on his private ones. During his long illness he always showed great courage in facing his troubles, and was cheery and optimistic to the end. He leaves a widow, to whom our heart-felt sympathy goes out.



What did *he* say in 1822?

THE DEBATING SOCIETY

A MEETING of the Debating Society was held in the College Smoking Room on December 4th, when Dr. Evans took the Chair. The preliminary business of the Society was complicated by Mr. Cardew's forgetting to produce the Minutes, and his subsequent resignation from the position of secretary. In spite of almost unanimous opposition, Mr. Cardew insisted in his intention, and Mr. A. V. Hill was proposed as secretary in his place. There being no opposition, Mr. Hill was elected secretary.

The Chairman then invited Mr. C. R. Tilly to propose: "That beauty lies only in the eye of the beholder."

Mr. C. R. TILLY defined beauty by referring, as many debaters have done before him, to the Oxford Dictionary. Beauty, said Mr. Tilly, gives not only pleasure to the eye of the beholder, but also produces an urge to do something about it. One can never be satiated with beauty as one can be with other pleasures. Beauty differs in the extent of its appreciation not only in different people but also in the same person at different stages of his development and education. Ideas of beauty alter with the generation, and education is often necessary in order that one may appreciate the beauty of a past generation.

Mr. Tilly attempted to prove his case by postulating an "æsthetic, absolute or inherited" element of beauty in objects, and suggesting that as there is an infinity of such absolutes, therefore there can be no absolute at all, and that beauty is discernable only to the beholder and is not inherent in the object surveyed. He then inevitably dealt with the question of the so-called beauty of feminine face and figure, and divulged, amid appreciative and encouraging laughter, some insight into his own sex life. In relation to this and other forms, he stressed the purposive factor of beauty. He concluded by evolving from his arguments a definition of his own of beauty, as an acceptable, purposive, emotional reaction, due to change in physical or mental environment.

Mr. S. J. WILKIE, opposing the motion, was apparently so impressed by the proposer's arguments that he did not attempt to reply to them, and lost an excellent chance of discomfiting the proposition by failing to attack the "æsthetic, absolute" argument. Beauty, said Mr. Wilkie, corresponds to Truth and Goodness. The former is objective, and therefore beauty is objective and cannot be subjective. He seized on the word "only" in the motion, and considered that if he could prove something objectively beautiful his case would be won. He quoted Vernon Blake in saying that in all beautiful things there is both unity and diversity, neither offending the other. Here he gave a possible reason for differing opinions of beauty, in the perceiving of the unity or the diversity by the individual. If beauty is objective we should be able to compare one kind of beauty with another. There is beauty in art of all ages, but training is often necessary for its appreciation. Therefore, the opposer argued, there is something common or objective in the art.

After the interval for refreshment, which is becoming a popular feature of these debates, several tongues were loosened.

A member whose name is unknown to the writer said that he appreciated beer as beautiful, but not on the morning after. He appeared to be in support of the motion.

Mr. CARDEW was amusing about a tiger, and said a number of other things for the motion.

Another unidentified speaker thought that Schubert was a utilitarian musician.

Mr. WAKEMAN became enveloped in a cloud of words, and told us we were evolved from slime. He proceeded cleverly to reduce beauty to physics, and concluded by telling the one about the shipwrecked sailor. It was difficult to guess which side he supported.

The SECRETARY made some remarks in support of Mr. Tilly.

Mr. DIXON reintroduced the subject of beer, beautiful beer, and quoted a variety show audience held spellbound by the Air on the G String. Was this, therefore, objectively beautiful?

Mr. VOSS became rapidly involved in an objective fantasy, but subsequently emerged therefrom and said some cogent things for the motion.

An American gentleman, unknown to us, had the temerity to criticise the Oxford Dictionary, and quoted a very American experiment on colour appreciation. He subsequently made quite the best post-refreshment speech on behalf of the motion.

Mr. COXON deplored the general lack of appreciation of beauty, and made at least one false deduction.

The Chairman, having a pressing engagement, the Secretary took the Chair, and called upon Mr. Wilkie to sum up.

In his concluding remarks Mr. WILKIE spent most of his time disposing of his critics. He expressed a taste for Chinese paintings and scoffed at utilitarianism. What, he demanded, is the use of being useful?

Mr. TILLY, in summarising, criticised his opposition for not dealing with the matter in hand, not without some justification, and for basing his arguments on critics, people of a like mental outlook.

Upon a division being made of the somewhat attenuated House, 16 were for the Ayes and 8 for the Noes. The motion was therefore carried by eight votes.

A. L. Y.

Plain Tales from Maze Pond

THE EXTERN'S CHRISTMAS

WHEN Arthur's head is almost crowned
They call the Extern, sleeping sound,
Who, always of his duty fond,
Soon pedals down the Great Des-Pond.
The door is opened by the Gamp,
Who leads him, with a miner's lamp,
To where the mother, on the bed,
Looks as though already dead,
Until, sensing a whiff of beer,
She says, " Thank God, the Doctor's here ! "
The naïveté of that pious cry
'Most brings a tear into his eye,
And instantly, upon his mettle,
The extern searches for the Dettol,
While the mother's little daughter
Is sent out for some more hot water.
Meanwhile, he finds no ergotoxin,
Although he's sure he put the box in ;
Then—every moment tenser—tells
The Gamp he has no Spencer-Wells.
The Gamp says, " Well, it's quite the thing
To tie the cord with bits of string."
Another *most* distressing find—
His scissors, too, he's left behind.
The Gamp says, " Well, if he can follow 'er,
The father is a famed sword-swallower ;
And so suppose they cut the cord
With little Arthur's father's sword ? "
The sword—last used at the Astoria—
Is red, to make it look the gorier ;
And down some throat quite twice a night
Was made to disappear from sight.
The cutting edge was true and keen,
Altho' the paint obscured its sheen.
Though streps., and creatures even hardier,
Lodge between the teeth and cardia,
These are easily got rid of
By boiling with the saucepan-lid off.
The mother gives a shriek of pain,
And cries, " Doctor, it's here again."
The Extern, turning with a bound,
Finds little Arthur on the ground.
'Mid echoes of joy, laughter, mirth,
They then await the after-birth.
A head around the door is stuck ;
The anxious father asks, " What luck ? "
When told, " A boy," he leaves the scene,
Saying, " Thank God ! I win a green."
The mother eyes the little dear
And calls out for a can of beer,
For she is filled with exaltation
At adding to the population.
The Gamp asks for Pulv. ABC.
The extern cries, " Ah ! *c'est ici.*"
Bestows permanganate and dressings
And leaves amid a shower of blessings.
He has not even called the R.O.
From his nightly game of faro.
The mother, radiant as the dawn,
Fondly pats her thirteenth born ;
But soon, when Arthur's disobedient,
She'll wish that he'd been lithopedient.

H. K-W.

Nursing News

WE have pleasure in congratulating the following members of the Nursing Staff on their successes in recent examinations :—

Miss A. Y. Wells.—Diploma in Nursing (London University) Parts A and B, in General Nursing and Methods of Teaching and Educational Psychology.

Miss E. Opie and Miss W. D. Rogers.—Diploma in Nursing (London University), Part A.

Miss I. White.—Midwifery Teachers' Certificate.

Final State Examination

Miss Addison	Miss Kingswell
Miss Bates	Miss Percival
Miss Cleave	Miss Roser
Miss Cox	Miss Stedman
Miss W. Edwards	Miss Stone
Miss Gardiner	Miss Tanner
Miss Harrison	Miss T. Taylor
Miss Hek	Miss A. L. Warner
Miss Holberton	Miss Weaver
Miss D. Jones	Miss Wilcock
Miss Jennings	Miss Williams

A. M. G.

Reviews

Unscientific Excursions. By FREDERIC WOOD JONES, F.R.S., F.R.C.S. Published by Messrs. Edward Arnold & Co. Pp. 205. *Price* 6*s.*

PROFESSOR WOOD JONES has long been known as the author of some of the most readable and provocative of anatomical dissertations. It is no surprise that he should publish a book of essays devoted to unacademic subjects and written purely for the pleasure they gave him in writing. He is as entertaining on "The Nordic and the Native" and "In Disparagement of Big Brains" as he was illuminating in his classic on the anatomy of the hand. The controversial nature of a great deal of his anatomical writings has largely helped in making his work the stimulating stuff it is. That quality is very much present in these essays, which form a very readable collection of widely diverse subject matter.

Aids to Embryology. By R. H. HUNTER, M.D., M.Ch., Ph.D. Published by Messrs. Baillière, Tindall & Cox. Pp. 172. *Price* 3*s.* 6*d.*

THIS is the second edition of a work which is intended primarily for examination purposes. It makes no pretence to be a full account of the subject, but gives, in brief, an outline of human development such as the student may be expected to know for his Second Professional or Primary Fellowship. The book is well arranged, and includes at the end of each section a list of the more common anomalies found in the dissection room, and in this edition is included an account, from the developmental point of view, of the carotid sinus, which is of particular interest in view of the increasing attention which physiologists are paying to that body. Dr. Hunter has made an admirable attempt at condensing a difficult subject.

Rheumatic Diseases. By F. D. KERSLEY, M.A. M.D. (Cantab.), M.R.C.P. Published by Messrs. Heinemann, Ltd. *Price* 6*s.*

JUST recently there have been published a number of books on rheumatic disease; for the specialist there is Osgood and Pemberton, and for the general practitioner or student there is such a book as this. There has been an unfortunate tendency to regard the word "rheumatism" as a suitable diganosis for many conditions, which with more knowledge and careful examination would prove to be not of rheumatic origin, and it is only by gaining a clear picture of what are the rheumatic diseases that such an error can be avoided.

Dr. Kersley's book will enable the student and practitioner to grasp the essentials of such an important group of diseases. Dr. Kersley has written an excellent study of rheumatic disease, which, as he states, costs the country thousands of pounds in disablement benefit per year. He has wisely not overstated the merits of any one treatment of rheumatoid arthritis, but many would disagree that anti-streptococcal serum is of use in this disease; also he shows a tendency to minimise the toxicity of the gold compounds. Finally, he has dealt very adequately with the promising progress made in physiotherapy in the treatment of rheumatic disease.

Anæsthesia and Analgesia in Labour. By KATHERINE G. LLOYD WILLIAMS, M.D. Published by Messrs. Edward Arnold & Co., Ltd. Pp. 94. *Price* 5*s.*

THIS little book gives an excellent summary of all the methods and agents which can be employed for lightening the ordeal of labour. It is most complete, giving an account of such recently introduced methods as the Minnett gas and air apparatus, evipan sodium, and the Howard Jones spinal technique employing percaine.

It should be made clear that this book presupposes a knowledge of anæsthetics, its aim being to show the special requirements of obstetrics and how available agents may best be employed to meet these needs. Having read the book, one is left with the feeling that real advance has been made in the last decade towards painless childbirth as far as institutional practice is concerned. The woman who has her baby at home seems to be but little better off than was her grandmother, unless she is fortunate enough to be able to afford the fees of an anæsthetist for the duration of her labour.

There is an excellent chapter on resuscitation of the new-born.

R. L. S.

Correspondence

One Portal Registrable Examination

To the Editor of the GAZETTE

SIR,—In "Passim" of December 8th you write of the large percentage of men who start the M.B. London course and fail to complete.

I agree that the percentage of failure to complete is lamentably high, and without any proof I should imagine it to be much higher in the years under consideration than when I taught anatomy from 1899 to 1905. I would wish to urge that a certain percentage of "falling by the wayside" is right and proper, if it can be assigned to the fact that a certain percentage of men have entered for a higher course than their abilities permit them to attain. I think this should be so; the converse is a more potent factor for ill.

But while you are writing comparisons of examinations, why not go the whole way and arrive at the obvious remedy: A one portal registrable examination, conducted by a Board representing the present examining bodies, the passing of which shall entitle the candidate to a diploma to practice and which shall be accepted by all the universities as a required standard of technical knowledge.

Having acquired this diploma, the university man can obtain his M.B., B.S. by a thesis, or, better still, by the holding of a resident appointment in the subject of the degree.

I have examined in Surgery for the M.R.C.S., the London B.S., and the Cambridge B.Ch., and the standard does not vary much. In fact, my experience of meeting the same candidates for two of the above, within a few weeks in an examination of much the same severity, cannot be unique; this is an obvious waste of the candidate's time. If the scheme outlined is for the good of medical education, is it too much to hope that the present examining Boards will sacrifice their present financial interests, each deriving from the common Board its share of the fees paid by any candidates who desire their particular diploma; this to be granted after passing the registrable examination on the payment of a nominal fee.

It seems to me certain that examining bodies can organise a scheme for themselves to be managed by themselves without a great loss of their present financial stability in order to overcome the present duplication. If they do not do this the State must do it for them, and this is what I wish to avoid.

Yours, etc.,

C. H. FAGGE.

10, Devonshire Place, W.1.

County Hospital Experience

To the Editor of the GAZETTE

SIR,—I read with interest "N. M. J.'s" letter in your last issue. Six months in a County Hospital has convinced me of the value of experience gained in dealing with large numbers of cases. Pembury Hospital is one of a chain of four hospitals which draw patients from the whole of Kent. There are 480 beds, no case is refused, and the general scheme of administration is similar to that outlined by "N. M. J." Medical officers have complete control of their own cases, while a consulting staff is available in times of difficulty. The man who has spent a year or so doing house appointments can reap inestimable benefit from such an arrangement before going into practice, and one feels that competition for these jobs will be fierce when they become better known. Departure from specialism is a noteworthy feature; the treatment of medical, surgical and midwifery cases in the daily routine imparts a breadth of view which will surely be useful to the future general practitioner.

The "Infirm Wards" mentioned by "N. M. J." are of especial value. Aged patients form a large percentage of general practice, and experience alone enables one to cope with their peculiarities. They are only seen in bulk in such an institution. I heartily disagree with "N. M. J.'s" statement

that they are "unlikely to benefit from any treatment whatsoever." A little judicious physicing makes all the difference between comfort and misery, and suitable treatment enables the sands of life to run out gently.

We, too, use the gas, oxygen, ether anæsthetic sequence as a routine, but I have found that premedication with atropine makes the change over to ether smoother, though I cannot vouch for its value in averting chest complications, having had none.

I hope that this letter will induce readers to consider the idea of spending a year or so in a County Hospital.

Yours, etc.,
GAVIN THURSTON.

Pembury Hospital,
Pembury,
near Tunbridge Wells.

Sport

Rugby

Guy's v. United Services (Portsmouth)

GUY'S visited Portsmouth on Wednesday, November 28th, and defeated the United Services by 3 goals and 5 tries (30 points) to a goal and 2 tries (11 points).

Although the Services were below full strength, Guy's were still without Giesen, Kark and Dick. The Hospital took the opportunity to rearrange their pack, and the changes brought about a vast improvement to that shown hitherto. Playing throughout with plenty of confidence, they were masters of the set scrums, and were always to the fore in the loose.

With the forwards heeling the ball from most of the scrums, the half-backs were able to supply the three-quarters with numerous openings, most of which produced excellent results.

The Services started with a determined forward rush, and within a minute or two Guy's were forced to touch down. Guy's gradually worked their way to the other end, and eventually Alexander found a gap and slipped through, to send Wright over for a try, but Alexander just failed to convert from an easy position. A little later Wright scored another try for Guy's when he followed up a punt over the line and just beat Haig for the touch down.

Guy's were now definitely superior, and Steytler ran through with Fletcher in support, and the latter scored in a good position, but the kick at goal failed to produce the goal points.

The Services then set up an attack, and Haig stole away from a loose scrum, but was badly supported and a good opening was lost.

Near the interval a combined three-quarter movement led to a try for the Services, when Haig crossed near the posts and Carver converted.

Guy's started the second half at a terrific pace, which quite bewildered the Services' defence, and the Hospital scored points at the rate of more than one a minute. Wright, de Gregory, Alexander, Fletcher and Stanyon-Jaques all scored tries, three being converted by Alexander.

In a rally near the end the Services scored unconverted tries through Barnes and Lane.

It was a most encouraging victory for Guy's and should stimulate the team to further success in the near future.

Team.—E. C. Sharp; C. G. Wright, P. C. Alexander, I. McD. Stewart, R. M. de Gregory; J. van A. Steytler, K. A. Stanyon-Jaques; C. S. Darke, P. K. Hopkins, H. H. Crabb, E. R. Davies, P. Fletcher, T. A. Hale-Monro, A. R. Clarke.

Guy's v. Richmond

AT Honor Oak Park on Saturday, December 1st, Guy's displayed vastly improved form, but after a ding-dong struggle were narrowly defeated by 4 tries (12 points) to 2 tries (6 points).

A feature of the match was the magnificent manner in which the Hospital forwards more than held their own against one of the most dangerous packs in London. After several indifferent displays the most sanguine supporters could not have hoped that the Guy's pack would suddenly rise to the occasion and to a man reach their best form of the season.

Their success at Portsmouth earlier in the week has proved a splendid stimulant to the side, and if this form is maintained, then the Hospital need not worry about their forwards.

P. K. Hopkins hooked exceedingly well, and has improved considerably since the season commenced.

The visitors had a strong back division, but, although the Guy's halves had a better understanding than the opposing pair, their wings had a difficult task in holding Mermagen and Chapman. Richmond were well served at full back, where Mennim gave a perfect exhibition—he fielded the ball faultlessly, and not once failed to find touch.

Richmond started off with a forward rush, and in the first few minutes nearly scored, when Chapman gathered the ball at full speed, but put a foot into touch with the line at his mercy. Guy's retaliated with a grand drive back, Hale-Monro, Darke and Alexander all having a share in the movement.

However, Richmond did not stay in their own half for long, and eventually carried play to the Hospital's 25. From a line-out Iliffe threw back a long pass to the three-quarters, which was well taken by Webber, and Mermagen was over in the corner before the Guy's defence could get across.

Guy's fought back magnificently and, after holding their own for the rest of the half, they drew level just before half-time. Prior to this, a great effort by Steytler caught the defence napping, and when tackled gave Wright a clear run in; unfortunately for Guy's, the pass was slightly forward, and a certain try went begging.

A little later, Stanyon-Jaques, who had been a source of worry to the visiting defence, started a movement which was carried on by Alexander, Stewart and de Gregory; the latter made a splendid run along the wing before passing inside to Stewart, who scored in the corner. Alexander just failed with a good kick.

Richmond took the lead immediately after the interval after Iliffe had run through a surprised defence to within a few yards of the line. Megaw broke away quickly from a line-out and sent Iliffe over for an unconverted try.

Guy's tried desperately to draw level, but, following some loose play, Mermegan crossed again near the corner flag.

Splendid work by Stanyon-Jaques, Fletcher and Clarke carried play to the visitors' line, and Guy's were all but over. Soon after Wright had bad luck when he cleverly eluded the opposition, but unfortunately put his foot into touch when he had a clear run in.

Richmond returned to the attack and Godfrey cut through a spread-eagled defence to touch down behind the posts.

Near the end Guy's made a successful raid when Steytler and Fletcher raced away together, were joined by Clarke, and Fletcher went over from Clarke's return pass.

Team.—E. C. Sharp; C. G. Wright, P. C. Alexander, I. McD. Stewart, R. M. de Gregory; J. van A. Steytler, K. A. Stanyon-Jaques; H. H. Crabb, P. K. Hopkins, C. S. Darke, E. R. Davies, G. J. van der Merwe, A. R. Clarke, P. Fletcher, T. A. Hale-Monro.

Guy's v. The Army

ON Saturday, December 8th, Guy's had the honour of being the first club to oppose The Army in the first of their representative matches. After a most exciting game, in which the result hung in the balance until the closing stages, Guy's were successful by 2 goals (1 penalty) and 2 tries (14 points) to 3 tries (9 points).

No doubt those who were privileged to see this game went away convinced that at last Guy's had produced football approaching those halcyon days of 1921-23. It is true there were many mistakes on both sides, but this was due to some extent to the heavy condition of the ground and the slippery state of the ball.

Guy's have improved considerably during the last two or three weeks, and they appear to have left behind that inferiority complex which has haunted them since the beginning of the season.

With the return of M. R. Kark, and Hopkins hooking so well, they now possess a pack which should hold its own with most first-class clubs. They are all keen and enthusiastic hard-workers from start to finish, and if they would only heel the ball quicker it would give the back division the opportunities they are anxious to obtain.

The return of Giesen and the continued progress of Stewart proved that the Hospital three-quarter line when at full strength will be a difficult proposition to tackle.

Wright produced his form of last year when he was selected for the English trials, while Stanyon-Jaques played his best game this season; he was ably supported by van Steytler, who, with J. E. Giesen, were the best backs on the field.

Guy's started off with plenty of dash, and were in the act of starting a passing movement when Giesen passed back to Clarke. To everybody's surprise one of the Army forwards nipped in and dribbled the ball up-field, and Novis gathered in his stride to send in Budge near the corner flag.

A few minutes later, Giesen followed up a short punt ahead and dribbled on to the Army's 25, where Lacey was penalised for not playing the ball and Kark kicked a splendid goal from a difficult angle.

Guy's continued to show up to advantage, but they found a stumbling-block in L. Chetwode, whose fielding and accuracy at kicking were outstanding. However, the persistency of Guy's was rewarded when Steytler created an ideal opening for Wright, but, unfortunately, it was a forward pass, and an ideal opening was thrown away.

A little later Stanyon-Jaques got away on his own and, after weaving his way across field, sent in Wright for a splendid try, which was not converted. Just before half-time Clarke was adjudged off-side, but Melville missed a good opportunity of making the scores level.

The opening of the second half was most exciting, as both sides scored good tries in the space of two minutes.

Guy's opened briliantly when Steytler deceived the opposing defence, side-stepped one of the Army backs and passed to Giesen. The latter drew the full-back and sent in Wright for an excellent try in the corner.

Stung by this reverse the Army forwards came away in great style and carried play to the Hospital's 25. A quick pass to Sedgwick enabled the latter to cross before Guy's had time to recover.

Guy's attacked strongly from now onwards, and on one occasion Fletcher was presented with an open line, but knocked on at the crucial moment. A little later Giesen tried a drop at goal from a penalty and only missed by the narrowest of margins. Then The Army kicked over the full-back's head and Novis, who followed up strongly, won the race for the ball and touched down in the nick of time to make the scores level.

Although Guy's continued to be the superior side, they could not finish off their movements, and a draw appeared certain, until Steytler cut through magnificently and passed to Giesen, who came up at top speed to race in behind the posts for the best try of the match; this he converted after " no charge " had been given.

Team.—E. C. Sharp; C. G. Wright, J. E. Giesen, I. McD. Stewart, G. F. J. Rees; J. van A. Steytler, K. A. Stanyon-Jaques; M. R. Kark, P. K. Hopkins, C. S. Darke, G. J. van der Merwe, E. R. Davies, A. R. Clarke, P. Fletcher, T. A. Hale-Monro.

Guy's v. Coventry

AT Honor Oak Park on Saturday, December 15th, Guy's gained a meritorious victory over their old friends from Coventry by 2 tries (6 points) to a try (3 points).

The conditions were much the same when Guy's visited Coventry earlier in the season—heavy rain overnight continued throughout the morning, and the ground was in such a bad state that at one time it appeared doubtful whether the match would be played.

Although Coventry had five of their players in the trial game at Falmouth, Guy's had to take the field without Wright, Steytler and Fletcher.

In spite of the adverse conditions, both sides rose to the occasion and gave a splendid exhibition, especially during the first half, when the football reached a very high standard.

Throughout the second half rain fell heavily, and towards the end it was almost impossible to tell who was who, all being equally plastered with mud.

Once again the Hospital forwards acquitted themselves magnificently, and during the last 20 minutes, when the visitors were hammering away at the Hospital line, they stood up to their task amazingly well, and not only kept their line intact, but retaliated with splendid forward rushes, transferring play well into their opponents' half.

Stanyon-Jaques was also in good form, and his try was an example of opportunism when near the opponents' line. Giesen played his part well; after securing the lead and realising that passing movements were out of the question, he contented himself with some excellent kicking, which repeatedly found touch well down the field.

Guy's started the game with plenty of confidence and within five minutes were a try to the good. Following a scrum near midfield, Guy's heeled quickly and Stewart sent Giesen away beautifully. After side-stepping Mayo, Giesen raced up to the full-back and passed to Alexander, who just managed to cross the line for an unconverted try.

Both sides attempted passing movements, but the players found it very difficult to keep their feet and very little progress was made.

Coventry missed an easy chance to score later on when Jeffs broke through and started a passing movement which was faultless, until Mayo passed to Harriman, who allowed the ball to slip through his hands when he had an open line.

The equaliser was only momentarily delayed, however, as the ball was sent very quickly and accurately from right to left, and Clark cut through the centre for Lole to cross in the corner.

The Coventry full-back knocked on from the kick-off and, following two or three scrums in the visitors' 25, Stanyon-Jaques cleverly deceived the defence on the blind side of the scrum and cut in quickly to score near the posts.

The second half saw Coventry in a most aggressive mood, and Guy's found it difficult to keep them at bay. On one occasion Gilbert was held up on the line and a little later a dangerous forward rush was checked by Sharp making a mark.

Following an exchange of kicking between Giesen and Gilchrist, the latter found touch near midfield, and from the line-out the Coventry threes carried out another good bout of passing, and only some excellent tackling by Giesen, Clarke and Hale-Monro kept them out. The visiting forwards made desperate efforts towards the end to cross the line, and came near on several occasions, but the final movement went astray.

At this stage the Guy's pack were magnificent and some of their forward rushes which carried play from the goal-line to midfield were excellent.

Both sides found the mud a great handicap towards the end, but they never gave up trying until the final whistle sounded for no-side.

Team.—E. C. Sharp; R. M. de Gregory, P. C. Alexander, J. E. Giesen, G. J. F. Rees; I. McD. Stewart, K. A. Stanyon-Jaques; M. R. Kark, P. K. Hopkins, C. S. Darke, E. R. Davies, G. J. van der Merwe, A. R. Clarke, R. O. Yerbury, T. A. Hale-Monro.

Hockey

Guy's v. R.N. & R.M., Chatham

THIS match was played on Saturday, December 1st, when Guy's fielded a side which contained six members of the second eleven; to this, probably, may be attributed the rather poor combination of the team, especially in the first half. In spite of this Guy's had always the upper hand, and took the lead early in the game with a goal from Jenkins. The opposing centre-forward soon equalised with a good shot, but Jenkins added another, to put Guy's ahead again, and at half-time Guy's led by two goals to one.

The second half saw Guy's continually penalised by a misinterpretation of the "off-side" rule by an umpire who volunteered to substitute for the official representative of the Hockey Umpires' Association. In spite of this, Richmond and Lucas added further goals. The R.N. and R.M. also scored another following a breakaway by their right wing. And the final score resulted in a win for Guy's by four goals to two.

W. H. Clarke in goal saved some good shots and cleared effectively, while T. C. Thorne at back hit hard and was very steady.

Result.—Guy's, 4; R.N. & R.M., Chatham, 2.

Team.—W. H. Clarke; T. C. Thorne, A. C. Greene; A. S. Bookless, A. G. Richmond (Capt.), W. J. Quick; N. W. Lucas, J. E. Elliott, J. J. M. C. Jenkins, E. B. Rowe, R. R. D. Porter.

Hospital Information, etc.

Pass List

UNIVERSITY OF LONDON.
THIRD (M.B., B.S.) EXAMINATION FOR MEDICAL DEGREES.

November, 1934.

Honours.

*M. J. F. McArdle.

* Distinguished in Medicine.

Pass.

J. A. Brocklebank
E. D. Falconer
W. T. J. Fowler
J. Greenhalgh
F. R. Kilpatrick
B. McArdle
La-lad Sobiya

GROUP I.

J. F. A. Forster
A. E. James
J. B. H. McArthur

GROUP II.

M. J. Lindsey
W. H. Summerskill

Papers by Guy's Men

Robert Cutler. Response to orthodontic treatment. *Dental Record*, 1934, liv, 626.

—— Treatment of canine irregularity. *Dental Record*, 1934, liv, 628.

W. M. Mollison. Dysphagia. *Clin. Jour.*, 1934, lxiii, 488.

E. P. Poulton. Relative advantages of British and foreign health resorts. *Brit. Med. Jour.*, 1934, ii, 1037.

John A. Ryle. The Hippocratic ideal. *Lancet*, 1934, ii, 1263.

W. H. Ogilvie. Some aids to tidy operating. *Lancet*, 1934, ii, 1268.

Appointment

E. A. R. Berkley, approved by the Board of Control and the Kent County Council for the certification of persons under the Mental Deficiency Acts; Medical Officer, Princess Christian Farm Colony for the Feeble-Minded; Hon. Surgeon, South-Eastern District, National Fire Brigade Association.

Change of Address

Dr. D. R. Grant, Casilla Hid. Soc. Com. Anglo-Ecuatoriana Ltda., Guayaquil, Ecuador, South America.

C. V. Kark, 139, Sloane Street, Sloane Square, S.W.1. *Sloane* 6362.

Dr. E. C. Warner, 111, Harley Street, W.1. *Welbeck* 6842.

Dr. Adolph Schott, 63, Wimpole Street, W.1. *Welbeck* 4245.

Birth

JAMES.—On November 27th, 1934, at White Gates, Hitchin, Herts., to Jessie (née Lefeaux), wife of D. W. James, M.B., B.S.—a son.

EDS. { D. P. K. / P. W. C.